NEW ENGLAND FARMER

DEVOTED TO AGRICULTURE, HORTICULTURE, AND KINDRED ARTS.

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OCTOBER.

"On hill and field October's glories fade;
O'er hill and field the blackbirds southern fly;
The brown leaves rustle down the forest glade,
Where naked branches make a fitful shade,
And the last blooms of autumn withered lie."

ONE of our most beautiful writers, and one of the most critical observers of the ever changing aspects of Nature, our old correspondent, WILSON FLAGG, Esq., says "the two most interesting periods to one who is in the habit of associating some agreeable sentiment with the phases of nature, occur when the trees are putting forth their tender leaves and flowers in the opening of the year, and when they are assuming the variegated hues that precede the fall of the leaf. Hence the spring and the autumn have always been regarded as pre-eminently the two poetical seasons,—the one emblemizing the period of youth, the other that of old age. But to the eye of the painter as well as the poet, do these two seasons offer the greatest attractions."

"In the spring, while the leaves are bursting from their hibernacles, and unfolding their plaited forms, they exhibit a great variety of tints, which are constantly changing with the progress of their development. In autumn, during a space of about two weeks, they pass through another succession of hues, and this change, connected with the fall of the leaf, has given rise to many pleasing sentiments, which have been woven into the poetry of all nations."

All persons do not enjoy the same seasons alike; we cannot tell why. It can hardly be peculiarity of temperament, for in many cases those persons who are prone to look upon the dark side of things, find their highest enjoyment in nature in "the melancholy days, the saddest of the year," of which Bryant sings. Some prefer the month of MAY, when Nature has burst away the shackles in which she has long been bound, and all the vegetable world is expanding into a new life. Some give JUNE the preference, when the air is redolent with the perfume of flowers, while others prefer the fervid heats of JULY, when the early harvests crown the earth with their gladdening abundance.

The autumn, we must confess, does come to the soul with a melancholy touch. While we are silent in admiration of the prospects afforded by every valley and hill-top within our view, that admiration is tinged with a feeling of sadness which we did not summon, and which we cannot separate from the enjoyment

afforded by the charming scenery before us. It is the answering tones of Nature in our hearts. Before us is an expiring world; a world that only a few days ago was green and vigorous, and of exceeding beauty,—now perfected and going into decay, but like the last hours of the Christian, greatly illuminated by the perfections of its former life. So may it be with us all.

But it is folly for us to write, when we can find it so much better done by another and an unknown hand. Read and see how vividly he brings autumn scenes before you. The very things you have seen and done yourselves, and thought of a hundred times since,—and if shut up in the city, that you have gone back to see and live your youth over again among them. How life-like and beautiful is the following sketch:—

"We do not now, and never did believe that autumn days are 'the saddest of the year.' To us they seem the brightest and happiest of the twelvemonth. They come with their delightful coolness close after the sweltering summer, and they bring with them the treasure that the spring promised and the summer toiled to perfect. The countless wealth of the teeming earth comes home to the barns or hangs pendant on the boughs. The grapes turn purple and grow red in the face with the unpressed wine that fills their bursting skins. The nuts the boys and girls seek under the thick limbed beech, or beat from the walnut and oil nut trees, are waiting to be gathered. The cider mill has its teeth examined, and its tubs washed, and its press made ready for the cart loads of apples that are turned out at its door. So like an old epicure of an anaconda that wakes from months of sleep to glut itself on the rabbits that are near it! And the squirrels chirp and frisk so merrily, with their cheeks plethoric with nuts and stolen corn, as an honest Jack's with 'old soldiers.' What rare sport is to be had with the coons when the harvest or the hunter's moon plays at 'bo-peep' with the sun, raising their broad faces over the eastern horizon, just as the sun draws his below the western."

And the month of the huskings, now by results of the husking machine, fast becoming memories of the past or only to be found in rocky New England. And the large mellow pumpkins, that dot the corn-field all over with their rich color, and seem to be aching to be made into luscious pies for these same huskings, where rural maidens and their lovers pop the question and claim the forfeit kiss.

"And what an event is the lighting of the first fire in the sitting-room, particularly if it be of wood, and be in one of those smoky, roomy, uncomfortable, delightful old-fashioned fire-places. How the smoke runs into all the little crevices of the chimney, and then, frightened at itself, draws back and comes to the hearth again, timid and distrustful of the world outside. And so it coquets and flirts till the flames, getting bold and blustering, run up the chimney and encourage the smoke. And when it does at last get over the top, one little wavelet after another, it loiters for a minute, uncertain and irresolute, and then goes off in such volumes and rises up so buoyantly, and keeps up such a race with the flames all the long evening. Henceforth the fire absorbs all Tom's care and his mother's, and another is added to his 'chores,' viz: to bring in chips and wood. The Lares and Penates* take their seat upon the broad hearth-stone for the winter, the cricket chirps, and

> 'Like a locust shrills the imprisoned sap,
> Hunted to death in galleries blind.'"

And how grand is what we call Nature. The gorgeous sunsets, the myriad-hued foliage, even the bare trunks and stripped branches of the forest are all alive with beauty. And to us it seems a gladsome beauty. There is nothing sombre in it. The trees put off their leaves as the soldier who has done his duty doffs his uniform when his work is done, and the victory gained. The trees have borne their fruit, they have withstood the spring freshet and the summer drought. Their duty was to grow, and they have done it. They can point to feet of new twigs, and inches of new circumference, and they lay off their garments for the rest of winter.

"And how the earth takes up their cast off garments, to make from them a garment for herself. Driven from the garden of summer, as Mother Eve was from the garden of Eden, old Mother Earth sows leaves together, and makes to herself an apron to cover her lap, and of such a web of many colors as no Isaac ever yet chose for his Joseph."

What a close observer the writer of the above must be. How he has treasured up the

*The household gods of the Romans.

scenes, sayings, and doings, and the sacred memories of home. Thanks to the Cincinnati *Gazette* for the pleasure we have found in reading him, and which we mean tens of thousands of others shall enjoy through these columns. Come and rusticate with us, friend, in the "Woods of Walden," on the banks of the "classic" Concord river, amid whispering hemlocks and gorgeous autumnal scenery.

OCTOBER WORK.

No month in the year affords more pleasant opportunities for out-door work than October. It is usually dry and cool, so that men and teams feel lusty and strong. The days are not so long as to exhaust either, and with all things in order, a great deal may be done towards permanent improvements on the farm, besides attending to the stock and the crops.

In the early part of the month it is an excellent time for draining, which is a work greatly needed on many farms. Needed, because there are acres of low, moist ground on them which produce but one ton of ordinary hay each year, worth, perhaps, ten dollars a ton, while, with proper drainage, ploughing, manuring a little and seeding, they would produce a ton and a half, and sometimes two tons per acre for ten years in succession, and worth from $10 to $16 per ton. Every second year such land ought to receive a top dressing of well rotted manure, in order to keep up the fertility which we have assumed. In most cases no money need be expended to reclaim such lands, excepting for grass seed, if the proprietor does not raise it himself. The reclamation of such lands will pay the farmer twice as much interest as the investment of his money will in railroad, bank, or most other stocks. The investment of their money in various kinds of stocks where the income is small, at most, and where dividends are withheld, and ruinous losses frequently ensue, instead of investing in the soil about their doors, is an error which a great many New England farmers fall into. If they would make an experiment upon one acre, keeping an accurate account of the cost of reclamation, and the value of its products for five years, they would find that the products of the land would give an income three or four times as large as that derived from most stocks. This income would be liable to few fluctuations, and would be absolutely secure from any great loss.

Next to the middle of June, October is the best time for pruning apple and other trees. They are then in a comparatively quiet state, and will not bleed when they are cut.

If the month proves a particularly dry one, every available moment should be occupied to accumulate materials to increase the manure heap throughout the winter. One of the best of all materials for this purpose is *peat*. Indeed, old, highly decomposed peat is an excellent manure in itself. In addition to this, it is one of the best absorbents in nature, and if added to the droppings of the stock once a week, will store up and preserve every pound of them for future use.

Cattle who are fattening for beef, and swine intended for slaughtering in December, will require especial attention while mild weather lasts. They will grow much faster on the same food, than when the weather is cold.

Much cost of fuel, vexation and discomfort may be avoided by careful attention to the buildings before blustering weather sets in. From the saddle boards to the underpinning, every part ought to be examined, and a shingle put in place, a clapboard nailed down, a pane of glasss set, or a door righted up wherever either are needed. If the house needs banking up, it may be done easier and better with hemlock or pine brush laid closely together against the bottom of the house. The first snow that falls will be likely to fill all the openings in the brush, and the frost will not penetrate half as quick as it would a mass of earth. When the brush is removed in the spring it may be burnt in the garden, where the ashes will afford a most valuable dressing.

October affords a good time to clear up under the walls—cut the bushes and tear up the roots, and if the loam has accumulated there, as it often does in the course of years, cart it out and spread on the grass lands. It will be as valuable as a light dressing of manure.

Many other things will call for the attention of the farmer during the month, which, if neglected, cannot be so well done at any other time. He must remember that thrift comes more frequently from systematic industry than from what is called "good luck."

—Proper care of our horses would obviate many painful diseases.

THE LANDOWNER.

When I come within sight of my farm, after having been away, a pleasant sensation rises within me, that no other feeling can equal. I am at home—on my own land. These are my acres, which the combined power of the country has guaranteed to me. It is mine, and my heirs forever. Here is security. If there is anything stable in the world, this is it. My fireside is therefore built upon a firm foundation. I and my children are safe. We are not intruded upon; no one has a right to do this; the strong arm of the law is ever ready to defend us. Here I have my worship undisturbed; I attend to my concerns unmolested. In a word, I am at home.

And when my acres wave with grain—that grain and those acres are mine. I own them, and I *feel* them. They are part of myself. My cattle—not the cattle of a thousand hills—are mine; *I* have raised them, and I know every one, as I know my household—"Boss," and "Brindle," and "Kitty." They come at my call—they know me. The old cow has a face as intelligent as many a person, and much more sympathy in it—honest old face! I could not well do without it.

Thus my fields are stocked with this intelligence, and the gleeful antics of the heifers and steers remind me of my own youthful days. And for "innocence" the lambs, and the quiet, inoffensive sheep. Even the "grunter" has something I do not want to dispense with. And the chickens, and the stately rooster who is lord of the barnyard, as I am of the premises.—*T. G. in Rural World.*

ALPHABETICAL INDEXES.

To the charge of a friend who recently accused us of a mania for alphabetical indexes, we must plead guilty. As editor we use books chiefly by way of reference, and the want of what the great Unabridged calls, "that which guides, points out, or informs; any table for facilitating reference to topics, names, and the like in a book, usually alphabetical in arrangement," has caused our madness. We may regret this derangement of a naturally serene and easily satisfied disposition, and try to forget the subject, but a glance at the choice volumes which fill the shelves of our desk, and from which we have so often

> —"Eaten of the insane root
> That takes the reason prisoner,"

and at once the worst symptoms of our monomania return.

Side by side on our shelves stand two volumes, wonderfully alike in many respects: "*Dairy Cows and Dairy Farming—Flint,*" and "*Cattle and their Diseases—Jennings.*" The first has a full alphabetical index, in some cases citing a dozen pages on which information upon a particular topic can be found. The other volume has a mere table of contents.

There, too, are the "*Practical Shepherd—Randall,*" and the "*American Shepherd—Morrill;*" volumes similar in size and style. The first has an alphabetical index which the wayfaring reader, though in a terrible hurry, can use with perfect satisfaction; the latter has a bulky table of contents which only serves to make confusion worse confounded.

Between the degree of perfection which marks the indexes of these volumes, and the degree of popularity which they have secured, there is, to say the least, a striking correspondence.

During his residence in New England, Dr. G. H. Dadd wrote books enough to make a man rich, but they were generally sent out with poor indexes. We are not well informed as to the degree of his success, but our impression is that for every dime he put in his purse from their sales he ought to have had a round dollar. Here, for instance, is his *American Reformed Cattle Doctor*, published in 1851, "containing"—so reads the title page—

> The Necessary Information
> for
> Preserving the Health and curing the Diseases
> of
> Oxen, Cows, Sheep, and Swine,
> with
> A great Variety of Original Recipes,
> and
> Valuable Information in reference to
> Farm and Dairy Management;
> whereby
> Every Man can be his own Cattle Doctor.

And yet, notwithstanding that we are put to our wit's and memory's end almost every week for suitable replies to the inquiries of the readers of the Farmer, for advice as to the proper treatment of the various ills by which their stock is from time to time afflicted, we so seldom refer to this volume that you can now write the word "Index," or your own name, in the dust which has settled undisturbed upon the head of the very pages on which all "the necessary information whereby every man can be his own cattle doctor" is spread out in detail. Though the volume has stood for years within a foot or so of the spectacles which dignify our anxious countenace, we are still unable to unloose the seals of that book. True, there are six pages of "contents;" but they are just about as useful for the purposes of an index, as six piles of brush would be to a

surveyor in the woods for the purposes of a compass.

We remember the remark of some essayist on longevity, that, however diverse, in most respects, may have been the habits of life of those individuals who have lived to a remarkably old age, a marked uniformity is observed in the fact that all have been early risers. Our own observation of the sale and use of books of the kind under consideration, justifies the conclusion, that however various may be their excellences in other respects, the few popular and profitable ones uniformly have a good alphabetical index.

With the remark of Daniel Webster, who once said, "I never look at a book that has no index," we close this apology for our unsoundness of mind on this subject.

While we do not offer the foregoing as a defence of unjust criticism, we do hope it will be received in extenuation of the apparent severity of a late notice of a most valuable treatise on the cultivation of an important crop, in which prominence was given to the remark that the work was sent out without any index at all. After according in the most gentlemanly manner "the utmost freedom to the critic," and admitting that, notwithstanding the careful manner in which the topics of this book were arranged, an "index might have been an improvement," the author of the work alluded to says, in a private note,—from which we venture to extract:

"I don't know as I have a right to make any complaint in the premises, but it is not pleasant to find one's well meaning neighbors infer from such a criticism, that one's book is a failure."

That certainly is an impression which we are sorry to learn our remark produced. We designed simply to remind author and publisher that this fast-reading age demands something to facilitate reference to the topics, facts, &c., which their books contain. If an ingenious watch-maker were reminded that he had omitted to furnish a key with his time-keeper, should that be taken as an intimation that the watch was a failure?

"But," continues our friend, "all this is the publisher's own matter." Now, were the publisher to write up his objection to our criticism, would he not most likely repeat the same remark, with the change of a single word, and say, "But all this is the author's own matter."

Whose business is it to make up the index? This question discloses the root and origin of the whole difficulty. We see that it is not the author's business. The printer, the binder, the publisher, severally beg to be excused. There is work in it; tiresome, bothering work,—work that to be hated needs but to be tried. Everybody wants an index; everybody admits its importance; but as it belongs to nobody to make it, the volume that embodies the experience of a life time, though written with care and skill, though printed "with accuracy and despatch," and bound in the finest style of art, disappoints the expectations of all engaged in its production. It don't sell. It is not quoted. It is a sealed book.

Whose business, then, we repeat, is it to make indexes, and thus to prevent the further ravings of the editors of the NEW ENGLAND FARMER?

For the New England Farmer.

JERSEY COWS.

Your article in the last number of the FARMER on Jersey cattle, although not giving a pronounced opinion, yet if we are to infer that you endorse the statement of Mr. Flint, I think the best farmers of Plymouth county will take issue with you. So far as regards this section of New England, I believe the converse to be the truth: that the Jersey cattle are very well adapted to the wants of Plymouth county farmers, and particularly to the wants of mechanics and small farmers who reside in villages, or whose limited amount of land prevents their keeping more than one or two cows. The opinion that they are not as hardy as natives, I do not think is borne out by facts.

It is now about fifteen years since the introduction of the Jerseys in this county. There was at that time, among the farmers a widespread prejudice against pure blood. How that has faded out, you may judge by the fact that at present there are from four to five hundred pure blood Jerseys in this county, with some thousand grades. One purpose of a farmer is to raise calves. Does it cost any more to raise a Jersey than a native? Some of our farmers are sure that the Jerseys look the best on the same keeping. A native yearling is worth from $20 to $30; with a *little Jersey blood* in them, the price runs up to $40 and $50, and a pure blood is worth $75 to $125. It needs no argument to prove the fact that blooded stock is the most profitable to raise. I am almost daily advised by farmers that have not owned pure blood, that their half Jersey cows are the most valuable they ever owned, a fact the purchaser would find out were he to ask the price. Eastern Massachusetts is largely indebted to Mr. Davis of Plymouth, Noyes, Field & Thompson of North Bridge-

water, Stetson, Bryant & Hobart of Bridgewater, for their early, persistent and continued efforts to introduce the Jersey cattle. New England climate has a peculiar and remarkable effect on the imported stock; their progeny showing a marked improvement in form; losing that harsh angular formation which characterize the Jersey, and rounding out in lines pleasing to the lover of good stock.

L. W. Puffer.

North Bridgewater, Mass., Aug. 15, 1865.

For the New England Farmer.

CHEMICAL TERMS.---No. II.

Base or Bases.—By these terms is meant such substances as will combine chemically with acids, and form salts. Thus in common salt,—which is a chloride of soda, or soda chemically combined with chlorine,—the soda is the base. In sulphate of lime or gypsum, the lime is the base. In sulphate of iron, oxide of iron is united with sulphuric acid. In this instance the oxide of iron is the base. A base may be an alkali or an oxide of a metal.

Reduction.—When the elements of a chemical compound are separated from each other, and restored to the condition in which they existed before their union, they are said to be reduced. This may be effected by the force of chemical affinity, by heat, and by galvanism. Thus, if to a solution of sulphate of iron, ammonia be added, the oxide of iron will separate from the sulphuric acid, and fall to the bottom, and the acid will combine with the ammonia for which it has a stronger affinity than it has for the oxide of iron. In this case the iron is said to be reduced. Heat a small quantity of red oxide of mercury in a tube over a lamp, and the oxygen will be driven off, and may be collected in a receiver, and the mercury will be found attached to the upper part of the tube, in the form of metallic coating, and may be collected into a globule. The mercury is said to be reduced.

Neutralization.—When sulphuric acid and lime are brought together, a new substance, plaster, or gypsum, is formed, which is neither alkaline nor acid. The alkali and acid just balance each other, and neither of these properties is any longer apparent. They are both neutralized. They are not absolutely destroyed, for the plaster or sulphate of lime may be reduced, when the lime and acid will exhibit the same properties which they did before they were united.

Filtration—is the straining of a liquid through porous paper, as blotting paper. This consists of the fibres of linen or cotton matted together. Writing paper will not do, because its pores are filled with glue or starch. This process is employed to separate from a solution all undissolved particles and impurities, and leave the solution clear and transparent.

Combustion.—By combustion is understood the union of combustible bodies with oxygen, and the process may be regarded as one of oxidation. The process may be rapid or slow, complete or incomplete. When the process is incomplete, particles of uncombined carbon are removed by the current of heated air, and form soot and lampblack. The products of combustion are chiefly in the form of gas. When coal and wood are burned, water in the form of vapor, carbonic acid, carbonic oxide, &c., are formed. When sulphur and phosphorus are burned, sulphurous acid and phosphorous acid are the result. Ashes are the incombustible portions found in bodies exposed to combustion.

Capillary Attraction.—If a piece of charcoal is dipped into cold water, it will drink up more than its weight of water. The charcoal is porous or spongy—that is, the solid matter is divided by hundreds of spaces or minute tubes. Could these spaces or tubes be laid open and laid side by side, they would cover a surface perhaps a thousand times larger than the piece of charcoal can cover. When a smooth surface, as of glass or wood is dipped into water, a certain portion of the water will adhere, showing that they have an attraction for each other. In the case of the charcoal or other porous body, the immense surface requires a large amount of fluid to moisten it. If a glass tube with a fine bore be dipped into water, the water will rise in it above the surface of the water into which it is dipped. It will rise in proportion to the fineness of the bore. Capillus means hair, and any fine tubes are called capillary tubes. The sides of small tubes are supposed to aid each other in drawing up liquids into the tubes. It is this power of attraction that causes oil to rise in a lamp wick, and water to spread in paper, sugar, sand, &c.—which causes salt to be diffused through a piece of meat. By means of this power, aided perhaps by vital force, the rootlets and sap vessels of plants attract water and various solutions from the soil, and convey them through the trunk and branches to the leaves.

In my next I shall give definitions of various chemical substances. R.

Concord, Mass., Sept. 5, 1867.

For the New England Farmer.

PROCESS OF WINTER BUTTER-MAKING.

Sometime in the month of January, 1866, I sent you a communication signed "Ruby," promising to write again, on making winter butter. But a multitude of cares and a change in our business relations, have prevented me from fulfilling that promise, until the present opportunity, which I embrace with pleasure. Since then my husband has sold out his farm in Paxton, and purchased a small place in Worcester, consisting of a house, barn, and one acre of land. The dairy—except the old

brindle cow, the favorite of the herd—that I have taken so much pride in tending, the cheese tub, the churn, and all things pertaining to the farm, have been sold under the hammer of the auctioneer. Being a farmer's daughter, and for twenty years having the cares and responsibilities of a farmer's wife, this change seems like stepping aside from the regular course of our lives. But I hope it is for the best. The sample of butter I send you is from the last churning and production of Madam Brindle, and the final winding up of my dairying career.

My process for winter butter-making, is as follows: As soon as the milk is brought into the house, it is immediately strained into clean pans and set away for twelve hours, after which it is set over a kettle of boiling water, and warmed to about blood heat, when it is again set away, and allowed to stand from twenty-four to thirty-six hours before skimming. This is done to hasten the process of churning, and to render the butter solid and compact, like that made in the earlier parts of the season. After the cream is taken from the milk it is kept secure from frost, as I think freezing is injurious. As daily additions are made to the cream pail, care is taken to keep the whole well stirred. My time in keeping cream is from seven to nine days, and it should not be kept much longer. I allow cream to stand twenty-four hours after the last gathering is stirred in before churning. In preparing the cream for the churn, I warm it to the temperature of fifty-six degrees—preferring this temperature to a higher or a lower one—the churn is made ready by putting in hot water succeeded by cold. I then press the juice from the gratings of four common sized carrots, also warmed to fifty-six degrees. This is a quantity sufficient for a churning of eight or ten pounds. Mix the carrot and the cream together, and put it into the churn. The time usually spent in churning during the winter is from ten to thirty minutes. The carrot I use is the Early Horn. I think this kind excels any I have ever used for butter; being deep colored, juicy and sweet. When the butter is churned, it is taken out and worked thoroughly before salting; then weighed, and one and one-fourth ounces of salt added to the pound. This quantity is sufficient, without any farther salting. It is then set away until the next morning, when it is reworked, and about one tablespoonful of nice white sugar added to every five pounds of butter; then formed into small lumps for the table, and it is done. By this process the sample I send you was made, which I forward by express. RUBY.

Paxton, Mass., March 9, 1867.

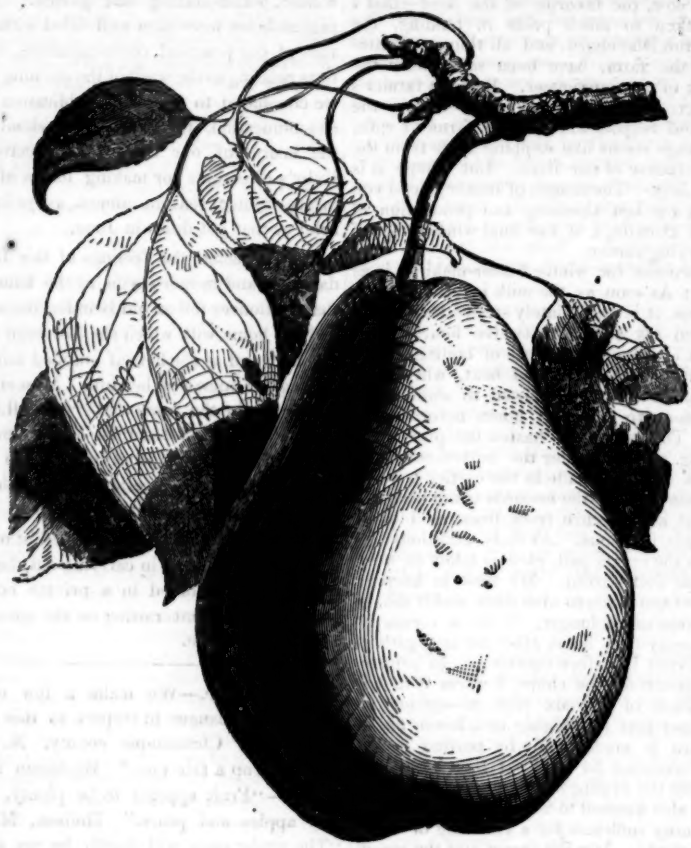
REMARKS.—The sample of the last churning of the cream from the milk of Madame Brindle was duly received, but as the above date indicates, it was not until after the time for winter butter-making had passed. As our pigeon-holes were then well filled with the favors of our practical correspondents, on subjects relating to the work of the opening season, we concluded to delay the publication of this communication, till Jack Frost should open the hearts of our readers to receive Mrs. Ruby's directions for making lumps of butter in the winter season, almost as yellow and solid as that put down in June.

We appreciate the feelings of this farmer's daughter and farmer's wife as the hammer of that auctioneer fell on old Brindle, the utensils, and the home with which she had been so long familiar, and as she herself stepped aside from the regular course of her life. Most sincerely do we join in the hope that "it is all for the best." May the attractions of the new home prove an ample compensation for the loss of that enjoyment which resulted from "the cares and responsibilities" of the old!

We shall be glad to be informed of our correspondent's success in carrying out the plans, to which she alluded in a private note, for gardening and fruit raising on the grounds of her new residence.

APPLE CROP.—We make a few extracts from our exchanges in respect to this important crop. Chautauqua county, N. Y.,—"Apple crop a fair one." Buchanan county, Mich.,—"Fruit appears to be plenty, especially apples and pears." Hudson, Mich.,—"The apple crop will hardly be an average one." Wilmington, Vt.,—"Apple crop will be light." Hampton Falls, N. H.,—"Apples scarce." Readington, N. J.,—"Fruit crop one half as large as usual." Waynesville, N. C.,—"Apple crop very fine—rotting on the ground for want of consumers." Keene, N. H.,—"Though not an apple year, there will be a moderate abundance." Cedar Co., Iowa,—"Our crop of apples and plums is quite light, although the blossom was the largest ever known in this region." Polk county, Iowa,—"Orchards that are large enough, are loaded with fruit." Champaign county, Ill.,—"The apple crop will be unusually light." Cecil county, Md.,—"Apples will be a light crop."

—By burning a small quantity of sulphur in and near places infested by ants, it is said they may be driven off.



THE BARTLETT PEAR.

Notwithstanding the great variety of new fruits which have been introduced of late, and highly extolled for their superior excellence, the Baldwin Apple, Hovey's Strawberry, and the Bartlett Pear are still favorites in the Boston market. The Bartlett pear, as it succeeds well when dwarfed by being grafted on quince, and thus comes into bearing much sooner than when grown as a standard, is a very desirable fruit. Taking into consideration its rapidity of growth, hardiness, size, form, flavor, and market value, the continued popularity of the Bartlett pear is not at all surprising. Mr. Downing says this fruit originated in Berkshire, England, about 1770, and was there known as the Williams. It was imported into this country in 1799 by Enoch Bartlett, Esq., of Dorchester, Mass., from whom it received its American name. Mr. Cole says it is liable to be affected by hard winters, and that more hardy native kinds are better adapted to the northern part of New England.

Fruit of large size, irregularly pyramidal. Skin very thin and smooth, clear yellow, (with a soft blush on the sunny side, in exposed specimens,) rarely marked with a faint russet. Stalk one to one and a half inches long, stout, inserted in a shallow, flat cavity. Calyx open, set in a very shallow, obscurely plaited basin. Flesh white, and exceedingly fine-grained and buttery; it is full of juice, sweet, with a highly perfumed, vinous flavor. (In damp or unfavorable soils, it is sometimes slightly acid.) Ripens from the last of August to the middle and last of September.

SPECIAL MANURES.

COMMON acceptance seems to have attached to the term *special* manure, the idea or meaning of something used as a fertilizer, or as a stimulant, that is not accumulated through the ordinary resources of the farm,—that is from the fodder and the stock.

It is a common practice to use considerable manure in the months of August and September, in stocking down lands to grass, and in various other ways,—and in speaking of special manures now, and as we purpose occasionally to do, it will be with the intention of stating *what they are* and *how they are generally used*, rather than to recommend them, preferring to leave that matter to the cultivator himself. It ought to be stated, however, that we firmly believe two things,—

1. That every farmer ought to exhaust all his resources for making manure at home, with his own means, and,

2. When this has been done he can profitably use genuine *special* manures under very many circumstances.

It is only within a comparatively short period that any considerable use has been made of the special articles that are now quite commonly employed as manures. Some of the old Roman writers frequently spoke of the value of *ashes* and *lime*, but seem not to have had the remotest idea of many of the substances which have been brought to act an important part in husbandry, and which do actually increase the value of many of our crops to a considerable extent.

One after another, these special agents have been discovered and introduced, and by some are thought indispensable agents in high farming. That some of them are of great value, giving not only a present but a permanent power of increase to the soil, there can be no doubt. Such, among others, is the use of bones. This fact was long ago learned by the farmers of England, who increased their wheat crop, by the agency of bones and thorough drainage. from the low standard of fifteen bushels per acre up to forty, with an average of about thirty. So great was the demand for them, that they soon became an important article of commerce, and British ships navigated every sea, and visited the remotest lands, to secure cargoes of bones. Our own shores were stripped of thousands of tons that went to fertilize the British Isles, while they impoverished as many of our own acres that were starving for them. They not only visited the hunting grounds of Africa, but gathered up the bones of countless herds of cattle on the Pampas of South America, that had been killed for their tallow, hides and horns alone! Even battle-fields, where men and brutes found a common grave, were carefully gleaned, and the decaying relics of unnumbered soldiers, or of horse and rider, found a too early resurrection and were exchanged for British gold! All these were transferred to the soil, and, with an improved husbandry in other respects, gave it a productive power which it had never had before. And it was not a spasmodic power, but a permanent and reliable one, that has brought the most luxuriant crops for more than half a century. The example of our trans-Atlantic friends at length awakened our own people to a sense of the importance of bones as food for plants, and some of them have been gathered and converted into superphosphate, bone meal and bone-flour, to be used both as a fertilizer and to be mingled with the food of our domestic animals.

The testimony of chemists is well expressed by Mr. Hocher, in his work entitled "*Science for the School and Family*," that "the powder of bones is an exceedingly valuable manure, as one can readily see it would be from observing the composition of bone. A bone is composed of an animal part, gelatine; and a mineral part, nine-tenths of which is phosphate of lime, and one-tenth the carbonate. The gelatine is of great value as a fertilizer for any crop, because of the nitrogen which it contains; and the phosphate of lime is especially favorable to the development of seeds; and therefore bone-dust is particularly appropriate as a manure for grain-fields. It is on account of this phosphate of lime that bone-dust is so beneficial to dairy land. Milk and cheese both contain this substance. There is about half a pound of it in ten gallons of milk. Bone-dust is also an excellent manure for wheat, for though this be a silica plant, that is, a plant in whose ashes sand, or silicate of lime abounds, the presence of phosphate in the soil is essential to the formation of the seeds. If the soil be rich in silicates but deficient in phosphates,

excellent straw will be obtained, but the grain will be small in amount; it will be a crop better calculated to make bonnets than bread. It is calculated that one hundred pounds of bone-dust are equal to twenty-five or thirty hundred pounds of stable-manure. Although bones contain such fertilizing materials, they must be well pulverized in order that they may be immediately available for the nutrition of of plants. It takes often even twenty or more years for the soil to disintegrate fragments of bone of the size of a hazel-nut or a pea, and yet such fragments are frequently seen in the bone-dust of commerce." Happily, means have been discovered to reduce them to paste or flour, of which we shall speak hereafter.

As *auxiliaries* or *helps*, in the management of soils, we have said that genuine special manures may be in some cases profitably used. No exact rules, however, can be prescribed for their employment. The nature of the soil, its texture, or mechanical condition, the degree of moisture it has, the state of the season and the time of application, all have so much to do with them, that exact rules would often prove inapplicable if they were given. The farmer will remember that plants feed only upon matter in solution,—that is, the bone, plaster, potash or ashes, must be dissolved, and in the form of liquid, before the roots can avail themselves of its nutriment. If, therefore, any of the special manures are applied to a soil so lacking in moisture as not to render them soluble, they remain inactive in the soil, and the plant derives no benefit from them. So if a soil—for the want of drainage—is constantly charged with cold water, which keeps the temperature so low that putrefaction cannot take place, plants derive but little benefit from manure of any kind, even if a redundance of it were applied.

These simple statements will illustrate, perhaps, why so many experiments with special manures are set down as failures. They are used under such circumstances as to render them completely inoperative.

When these are applied, therefore, they should be upon soils that are porous and fine, so that atmospheric action will be free among the particles, warming and moistening them. Under these circumstances, the fine grains, or flour, of bone, guano, superphosphate, or any of the special manures, soon become softened by the dampness of the soil, then warmed by the genial rays of the sun,—which easily penetrate it because it is light and fine,—and its nutritive powers, by the process of fermentation and putrefaction, are soon converted into a soluble form, all ready to be appropriated by the roots of the plants.

Treated in this way, special manures are quick in their action, giving plants an early and vigorous start, and pushing them rapidly forward, until their roots find new means of support in the soil which they penetrate in all directions. In rows of corn or vegetables where they are applied, the foliage will be found more luxuriant and of a richer and deeper color than in rows where none had been placed. These conditions must be observed, or they will frequently prove a failure. They should, also, be near the surface, where they will be kept moist by the dampness of the atmosphere and summer showers. Even when these conditions are observed, it will be well to apply them to the soil just before a fall of rain, in misty weather, or during a gentle shower.

LIME AND SALT FOR CURING HAY.

We take great pleasure in presenting the following answer to the inquiry of Mr. Metcalf in respect to the views of chemists as to the supposed action of salt and lime in counteracting the natural tendency of imperfectly cured hay to heat and spoil in the mow. Although Dr. Nichols does not assign a philosophical reason for the curative properties of the mixture which is ascribed to it by Mr. Metcalf, the readers of the Farmer will thank him for his prompt response.

150 Congress Street,
Boston, Aug. 16, 1867.

Mr. S. Fletcher,—*Dear Sir:*—I have just read in the Farmer, your letter to Mr. Brown regarding Mr. Metcalf's method of curing hay by the employment of *lime* and *salt*. I was so very busy when you called at our counting room, I failed to learn the true import or nature of your inquiries. It is evident considerable interest will be awakened in this subject, and therefore I hasten to present to your readers, a *chemical view* of the matter, which I trust is reliable.

If the quantities of salt and quick lime mentioned by Mr. Metcalf were mixed together, and sprinkled with water, double decomposition would result, and *caustic soda* and *chloride* of

calcium would be formed. A mutual destruction takes place between the lime and salt, and birth is given to these new bodies. Caustic soda would be very hurtful to animals, even if afforded in small quantities. It is a powerful caustic irritant. Chloride of Calcium is a deliquescent salt used in the arts, and in medicine. This also, would undoubtedly be harmful to animals. If no further chemical changes resulted, Mr. Metcalf's lime and salt mixture upon hay, would certainly prove an unhappy discovery. But the two new bodies tend strongly towards further changes; the caustic soda has a powerful appetite for carbonic acid, which it finds in the air diffused through the hay; a union is formed, and *carbonate of soda* results. But this is not all. Carbonate of soda and chloride of calcium cannot remain separate,—they rush together, exchange ingredients, and lo! we get back to *salt* again, *common salt* and hard, insoluble *carbonate of lime* remain in Mr. Metcalf's hay-mow after the play of chemical affinities is fairly over.

It is presumed that lime and salt mixed and strewn upon moist hay, would be influenced chemically, in a way similar to that which takes place when they are mixed and sprinkled with water. It is possible, a body of hay being porous, *unequal diffusion* of the carbonate of soda and chloride of calcium occurs from a point where they are formed, so that they do not unite. In this case carbonate of soda and chloride of calcium remains in the hay instead of salt and carbonate of lime. It is not probable, however, that decomposition stops short of the ultimate results, *salt* and *chalk*.

With this view, no advantages result from mixing lime with salt in curing hay, as the production of chalk (carbonate of lime) in connection with the salt, affords no additional preservative agent. All the gases involved in the changes are used in the new bodies formed, so that no agent of this nature is set free, to act as an antiseptic or destroyer of ferment. Hay treated in this way would be harmless to animals, as salt and chalk are perfectly innocous. Very truly yours,

JAS. R. NICHOLS.

—O. Aylworth, Fabius, N. Y., wrote to the New York Farmers' Club that a teaspoonful of turpentine placed in a barrel of water will kill the wigglers which hatch into mosquitoes.

SUMMER.

Dancing along the lands
Green-gown'd Summer has come, her robe spread out in her hands;
And to see her the morn wakes soon, and the evening is loth to go,
While the stars crowd thick in the sky to watch her in sleep below.

To prepare for her coming, the Sun
Work'd with a burning touch, and to-day all his work is done—
The fields with their flowers are dress'd, the grasses are long and soft;
The birds have their song in the bushes, the bees their drone in the croft.

You meet her in earliest dawn
Breathing most fragrant breath by the side of the blossoming thorn;
Laughing along by the streams, or pausing in valleys still,
Or painting with tender tints the bare brown rocks on the hill.

Oft in the noontide heat
She turns to the antique woods where the dew lies fresh for her feet;
Where the green lights fall through the leaves on couches of mounded moss,
And the sway of a wind-swung bough throws shadow and sunshine across.

Then at the end of the day,
Out of the edge of the sea where the waves plash cool in the bay;
And a pathway of gold is traced from the Palace of Sunset's door
Far over the heaving tide to the smooth wet sand on the shore.

Quickly wherever she goes
Comes a warmer waft to the wind and a richer red to the rose;
On the wave a bluer surge, in the orchard a whiter bloom,
A brightening light for the sky and greener grass for the tomb.

Ever in full-flush'd health,
Gifts unstinted she flings forth from her broad-bosom'd wealth—
Good for the sons of men; whilst Heaven, with vaults serene,
Loops up its curtain of cloud and smiles on the smiling scene.

Oh, for the summer heart!
Large and tranquil and glad, forever bearing its part
In a whirling, wilder'd world, whose groanings shall some day cease,
And a King shall rule over all in a Kingdom of Love and Peace.

—*Alfred Norris, in "Good Words" for August.*

For the New England Farmer.

NEWSPAPER ARTICLES---IMPROVEMENT OF STOCK.

It is a long time since I have written to an editor, and feel that I may be intruding now, but I have been a constant reader of the FARMER for a long time, and am very much interested in the articles of your valuable paper; more so, perhaps, because I am acquainted with very many of your contributors, and have had the pleasure of looking over the farms and stock of others. I sometimes wish that those who write would strive rather to present things as they are, than to produce articles that sound well. I remember of travelling several miles out of my way, some years ago, to see the farm of one that used frequently to furnish articles for a Boston agricultural paper, ex-

pecting to find a perfect pattern of neatness and order. But the first thing that met my eye was an old wall in front of the house nearly covered with wild brush, briers, weeds and everything that looked repulsive to the sight. This was about a fair specimen of his farm, with the exception of a very few acres. He wrote a statement in regard to a cow he had; giving the number of persons in the family provided with butter and milk, the number of pounds of butter sold per week, besides selling two quarts per day—making an extraordinary production for one cow,—when the facts of the case were, that the family never used any butter, and the milk sold was skim milk! Consequently those who were acquainted with the facts, had no confidence in his articles, and many condemned all newspaper articles as being of the same class. But there are many worthy exceptions. There are those who give us facts, and facts alone.

Few, however, like to make a record of the failure of any experiment, whether in field crops or stock raising, although these are often far more instructive than successes which farmers are so willing to detail. It is not enough to know what to do. What not to do, should also be understood; and to be understood, it should be taught by precept and example. How many promising colts, calves and lambs have been injured by improper feeding, or by injudicious management. And yet those who have learned wisdom in this dear school, are very reluctant to make a clean confession. I could cite instances and call names in illustration of these remarks, if proper to do so.

Still there is evident progress in agriculture, especially in the improvement of stock. Having had the pleasure of seeing with my own eyes many of the finest herds of horses, cattle and sheep, both in New England and the Provinces, I am certain there has been a very great change for the better, during the last twenty years, in stock and stock raising. This must be apparent to all who have been in the habit of attending our agricultural Fairs during that period. Should any one object to the evidence afforded of such improvement by the exhibitions at these Fairs, let them, as they may have opportunity, call on Mr. Chenery, of Belmont, Mr. H. G. White, of South Framingham, Mr. Lincoln, of Worcester, or on any careful modern breeder in the vicinity of Barre, Mass.; on Peter Jones of Amherst, N. H., or on Dr. Henry Boynton, of Woodstock, Vt., and on hundreds of others in various parts of New England, all of whom will take pleasure in showing their fine horses, cattle, sheep, hogs, &c., and then say, if he will, that there has been no improvement, no change for the better.

Mason, N. H., Aug., 1867.

Remarks.—If our correspondent's doubting friend should object to those breeders, as well as to cattle shows, as interested witnesses of stock improvement, let him attend that disinterested umpire, the Brighton market, some week when the best farmers in Maine send up their perfectly matched working oxen, or their mammoth fat bullocks, or when the Meeches, and other farmers, of the Champlain valley send their Durham steers, which, as to form and quality, rival the stock of Kentucky and Illinois, and do this in company with some one who remembers the quality of stock which came from these sections twenty years ago.

For the New England Farmer.

FARMING IN WEST VIRGINIA.

Messrs. Editors:—You requested me to give you the mode of farming and rotation of crops in my neighborhood, which I will do, as near as I can, to do justice to all parties. Cattle and corn are the principal articles raised.

Cattle.—It does not cost much to raise cattle up to three years old, as they are turned out into the ridges to graze in the summer, and are not brought up until late in the fall. They are wintered upon rough feed. When three years old they are sold to the speculators.

Corn.—The farmers (or those who call themselves such) plow their ground in the spring, most of them shallow, and harrow its lightly; then they take a shovel-plow and lay it off, from three and a half to four feet each way, and from three to four inches deep, and plant in those crosses. After the corn comes up big enough to plow, they take a shovel-plow, run it as close to the corn as they can without covering much of it, with some boys or girls, or both, if they have them, to follow the plow, to uncover what happens to get covered up, to chop out what briers the shovel-plow does not cut up. Next, in about ten days, they cross it in the same manner. The third and last time time they generally plow the same way as they did the first time, but put three furrows between the rows of corn; too often leaving their shovel-plows, and the big plow, too, where they finished, until wanted for the next crop. When the corn is ripe enough to harvest, they cut it up into shocks of sixteen hills square. Most of the farmers let it stand in the shocks until winter, before they husk it. The corn generally averages from twenty to thirty bushels per acre; that is, without any plaster or manure of any kind. There is no system of rotation of crops here. Often a piece of ground is farmed in corn for two or three crops in succession, before they sow it into wheat.

Wheat.—Soon after cutting the corn, wheat is sown. Many take a shovel-plow and at once plow in the wheat; others break up the land with a big plow, after they cut up their corn, then sow their wheat, and take a shovel-plow and plow it in. They generally get from five

to ten bushels per acre. But where they break up sod-ground and let it lay until the sod has become thoroughly rotted, and sow by the tenth to the fifteenth of September, they get from twenty to thirty bushels per acre of the first quality of wheat. But where they sow after corn it is generally of the second or third quality. What wheat is raised in this valley is raised after corn.

OATS.—Some oats are raised here. This crop is generally raised on corn stubble. Most sow their oats and plow them in with a shovel-plow.

BUCKWHEAT.—This is put on sod, which is broken up with a big plow, sowed, and harrowed in.

GRASS.—There is some grass cut here, but it is generally allowed to stand until the heads have turned brown, and often until it is dead ripe. It will average about a ton per acre. The farmers depend more upon their corn-fodder and straw, fed out in the fields, to winter their stock on. Few take any pains to make or save manure.

We are thirty miles from Winchester, which is our main market. Wheat flour in the mills now brings five cents per lb.; corn, one dollar per bushel; bacon, 10 cents per lb.; butter, 12½ cents per lb.; eggs, 10 cents per dozen; laboring hands on the farm, 50 cents per day and board; mechanics, from $1.00 to $1.50 per day and board. Yours respectfully, P.

Wardensville, Hardy Co., West Va., Aug. 2, 1867.

THE DAIRY IN ILLINOIS.

The Fox River Valley in Illinois is well adapted to the dairy business, as it has streams, springs, and the soil is favorable to grasses. Like most other portions of the West, it was for many years after its settlement devoted to grain growing. It is only about twelve years since farmers turned their attention to stock growing and dairying. On the 19th of June, a convention of the dairymen of this section was held at Elgin, at which it was stated by Judge S. Wilcox, that within a radius of five miles of that place, 2,000,000 gallons of milk are produced, bringing to that community from $200,000 to $250,000 annually.

From the report of the *Chicago Republican*, we make the following extracts of the remarks made by several of the dairymen present:—

Mr. McLean said:—The factory with which I am connected was commenced the 1st of May, 1866. We worked last year 95,000 gallons of milk in five months. We are increasing all the time. We sold 83,000 pounds of cheese last year, averaging about ten cents per pound. We are manufacturing 1,000 gallons of milk per day now. In May we worked 15,550 gallons of milk, and made 14,079 pounds of cheese. The amount of the present month will be larger proportionally, for when the air is clear, and the days bright, we get more milk and make better cheese than on wet, lowery days. It required about 9 38-100 pounds of milk to make one pound of cheese in May; in April, about 9½ pounds, I think.

The amount and quantity of the product of milk depends largely upon the degree of kindness to cows. I have learned that if we get one or two cows irritated, and put their milk with that of other cows that have been kept quietly, it will sour very quickly. This will account for the fact that milk so often sours in transporting to Chicago, when the usual precautions are taken to prevent it, while it does not sour with only the same care in other cases.

Milk should be put into the water as soon as it can be after it comes from the cow. The cover should be taken from the can at first. You should not stir the milk while cooling it. If milk has to be taken any great distance to a cheese factory, it should be cooled first.

A gentleman made the following statement concerning the Hanover factory, two and a half miles east of Elgin: It is owned by three men. We commenced the 1st of April with 330 gallons of milk; this morning we had 1,308 gallons. In April we received 13,000 gallons of milk, and made 13,780 pounds of cheese. In May we received 30,000 gallons of milk, and made 29,836 pounds of cheese. A portion of the milk received was not manufactured.

The weather has something to do with the amount of cheese to be got from a given amount of milk; but a skilful dairyman will adapt his process to the change of atmosphere, and will make about the same quantity and quality of cheese from the same amount of milk, every day in the year. This gentleman was asked if he could communicate the process in words. He replied that he could not; it was only to be attained by practical experience.

RELATIVE PROFITS OF BUTTER AND CHEESE.

Mr. Wilcox stated there were some advantages in selling the milk, as compared with carrying it to the factory for cheese manufacture.

Mr. Treadwell had been sending milk to Chicago ten years. Latterly, he had been trying to convert his herd of cows into a summer dairy. He is satisfied that it will cost far less to keep his stock in winter, will diminish the expense for labor in the aggregate for the year, and that the aggregate profit for the year from the same number of cows kept as a summer dairy, would be greater than if milked both summer and winter. He had found the profit derived from his milk, when sent to the cheese factory, to be full four cents per gallon greater than when shipped to Chicago; the extra expense for cans, the freights, the loss of whey, which prevents the raising of calves and pigs,

are considerable items in favor of the cheese factory.

Mr. Wilcox reminded the advocates of the summer dairy system that if it cost more to make and dispose of milk in winter, they also got a greater price for it. He milked on an average twenty-nine cows last year. He sold from them 16,486 gallons of milk, which brought him $2,544. He raised and sold calves which brought him $125—a total of $2,669 from his dairy. During five months he shipped his milk to Chicago; the balance was sold at the condensing factory here. He fed his cows pretty strong. When he first commenced in the business, he thought it would answer to feed them on hay and corn-stalks. He soon learned differently, and added bran to the feed. Found this increased the milk, but ran down the cows. He then commenced grinding corn and oats, using one part oats and two parts corn. Finally, he added to these one part of bran, and fed four quarts of this bran to each cow, twice a day. This produced a steady flow of rich milk, and kept the cows in excellent condition and healthy. He was satisfied it was profitable to feed cows well.

Other gentlemen testified in favor of the summer dairy system, and conceded the great benefits derived from the creation of a home market for their milk, by diverting a part of the product from Chicago.

J. M. Treadwell had been in the business ten years. He had been particular to buy young cows; can get more milk, of better quality, and at less cost, from them than from old. Milks at regular hours; aims at this time of year to finish before sunrise in the morning; in winter, gets through milking before five o'clock; divides the day nearly equally as to time of milking; does not allow milkers to wet cows' teats when milking; it is a dirty practice, and has turned off milkers who persisted in doing it; washes and wipes his cows' bags when they need it before milking; uses tin pails to milk in; does not use wood; examines carefully all utensils before using them, to see that they are not tainted; uses a sieve strainer with a white worn flannel beneath it; does not use cotton strainers; prefers worn flannel because it does not full up; is particular about the cans; washes them inside and out with soap and soft water, and then scalds them thoroughly with hot water; is careful to scald the neck of the can, because that is where the taint is, if there is any; boils the cover some minutes in cleansing; with these precautions he loses no milk.

He cools the milk before shipping it; has a vat of cool water in which he sets it; takes the covers from the cans during cooling process; does not stir it while cooling; does not mix warm milk and cool milk together; water passes around and beneath the cans in the vat; salts cows every five days in summer; after salting, the milk increases from two to five gallons; cows will not eat salt much oftener than once in four days.

He fed his cows bran all last summer, with profit; last winter fed barley meal and bran; has no fixed rule in feeding, but feeds each animal an amount proportionate to her size, the amount of milk she yields, and his estimate of the requirements of her nature; such as need most he gives most; feeds one part barley meal, or corn, and one part oats, and adds one part bran; oat meal yields the most milk; barley meal is as good as corn meal; aims so to feed as to keep the cows thriving; the better humor cows are kept in, the more milk they give, therefore feeds just before milking, and sometimes during milking; never allows a cow to be whipped; does not milk cows out of doors, summer or winter; can milk them in less time when in the stanchions.

A. D. Gifford, of the Hanover factory, stated that he found no difference in breeds as to milking qualities; cuts hay when it is in blossom; likes corn-stalks, if cut early and well cured; would as soon have half clover as all timothy; second growth of clover makes the most and best milk of any hay he ever used; is going to raise his own cows, breeding to sires of good milking families; finds there is only about one good cow for sale to every three dairymen who want her; regards the fact that the sire's parents were of good milking breed important in breeding; believes it is as well, or better, to have heifers come in at two years old, if the feed given them is sufficient to keep them thriving, as it should be. Two years ago, winter milking was profitable, because feed was cheap and milk high; but those who fed and milked last winter barely paid expenses; would have a cow go dry at least two months.

Mr. B. Duff, from Huntley, stated that the farmers in his neighborhood had tried to induce men of experience in the cheese dairy business to start a factory, offering them inducements to do so. Failing, twelve of them gave $100 each, built a factory, and were now receiving more milk than they could manufacture, and had that morning been compelled to refuse to receive a large quantity.

HOW TO MAKE TURKEYS USEFUL.

In Normandy, France, where the Creve Cœur hens are principally raised, they have a curious fashion of hatching the eggs. As the hens are seldom inclined to sit, and are at best only ordinary mothers, the good women of the peasantry have a fashion of pressing young hen turkeys into the service. This they do in the following way: Take a female turkey of the preceding year that has never laid, and put her in a basket containing plaster eggs. Cover this basket with a strong linen cloth. It will be from four to six days before she will overcome her natural disinclination to set, and become attached to the eggs,

or as the French have it, "take an affection" for them. When the prejudice is entirely overcome they place the real eggs under, she easily covering 18 or 20 of them. The covering is removed and the innocent turkey accomplishes the task assigned her without further trouble, save that it is necessary to remove her once a day that she may partake of refreshments. If this is not done these "sitters" sometimes starve to death, rather than voluntarily leave their charge, so great is this forced affection. After hatching, the little chicks are placed in charge of another turkey that may not have all she can raise and which is kept for bringing them up, and the original turkey mother supplied with a new lot of eggs, continues her "mission." These young turkeys are thus made to hatch three or four "litters" in a season.—*Paris Cor. Prairie Farmer.*

also p 527.

IMPORTS OF WOOL IN 1866 AND 1867.

We have been able to obtain from an official and perfectly reliable source the following heretofore unpublished statistics, giving the quantity and class of wool entered at the New York Custom House during the first six months of 1866 and 1867 respectively:—

FIRST SIX MONTHS, 1866.

Class 1, "Clothing Wool."	23,692,043 lbs.
Class 2, "Combing Wools,"	
Class 3, "Carpet Wools, and other similar wools,"	4,839,533 "
Total	28,531,576 lbs.
Noils	13,737 "
Camel's Hair	408,417 "

FIRST SIX MONTHS, 1867.

Class 1, "Clothing Wool,"	4,346,183 lbs.
Class 2, "Combing Wools,"	122,796 "
Class 3, "Carpet Wools, &c.,"	8,240,652 "
Total	12,709,631 lbs.
Camel's Hair	163,839 "

We are authorized to say that "most all of Class 1, imported since the present tariff went into operation, was entered *in bond*, and it is presumed either remains in bond or has been shipped out of the country."

We need not remind our readers that Class 1 embraces all the foreign wools which compete *with any kind of wool grown in the United States*, except "combing wools of English blood." During two months of 1867 (January and February) the present tariff was not in operation. Yet considerably less than *one-fifth* as much "clothing wool" was imported in the first half of 1867 as in the first half of 1866; and most of the small amount imported in 1867, as has been stated, *remains in bond, or has been exported to other countries!* It has not been brought into competition in market with our own wools. Who now shall say that the tariff has not been as effective in shutting out foreign competition as was expected, or as can be reasonably desired by the great mass of the wool growers of our country!

There is, it is true, a gain in the import of "combing wools"—but the amount is inconsiderable. Very probably the wool was entered before the passage of the tariff. At all events, the imports of this class of wools *into all our different ports*, especially those of the Canadian frontier, will fall off during the year probably in about equal proportions with those of "clothing wools." Our foreign supplies were mostly drawn from Canada, and it is notorious that the last clip of that country is unsold—that the market is utterly flat—and that the impression is now prevalent there that under present duties the English market will prove a better one for them than ours.

The import of "carpet wools" nearly doubled. These compete with no wools now grown in the United States, and their increased import therefore does not affect our growers, provided no frauds are practiced—provided other wools are not invoiced, and pass our Custom Houses under that name. Are such frauds practiced? Not, in our opinion, in New York. John A. Baush, who appraises every invoice of wool entered at that port, is an old, experienced, perfectly competent, and we believe thoroughly upright officer—the very man we would put in the place, were the appointment made by us. We have made inquiries in respect to the officer at Boston, who has the appraisement of wools under his charge. We learn that he has not had an experience on the subject extending much beyond two years—a thing certainly much to be regretted—but he is regarded among the business men of Boston as a man of integrity, and he has, it is said, an official under him in this department who is a very experienced judge and appraiser of wool. With this aid, and the aid of the standard samples, an upright man can discharge his duties faithfully.

These are the principal ports of entry for foreign wool, but there are others which deserve attention. We trust our friends who have any opportunities for ascertaining the character and conduct of wool appraisers, in any of them, will keep the officers of the National Wool Growers' Association informed of the facts. It is one of the most obvious duties of these officers to keep watch and ward on the subject of a fair and just administration of the law, and to expose any frauds practiced by its administrators. We, for one, are prepared to do the latter *with a will*, should occasion demand it.—*Rural New Yorker.*

HUNGARIAN HAY FOR SHEEP.—My experience in feeding Hungarian hay to sheep is rather limited; however I have made close enough observation to conclude that it is injurious, unless great care is taken, as it affects sheep as it does many horses. If it is fed cautiously, perhaps it could not hurt them, but I fed several tons of it last winter, to my sheep, twice a day, and they looked well, but after a while quite a number of them began to get stupid, and would not keep with the flock, and lingered along for several days, and a number of them

died. Not having any idea of the cause of their death, I made a post mortem examination and found them the fattest sheep that I ever dressed. When I came to the intestines I found them in a very bad condition; apparently under the inner lining of the intestines there had formed hard balls of various sizes, which proved upon examination to be Hungarian seed, and I came to the conclusion that that occasioned their death. Many of them would linger along for a week or ten days and finally recover. My Hungarian was ripe when I cut it.—*S. M. Y., in Prairie Farmer.*

AGRICULTURAL ITEMS.

—It is estimated that Sauk county, Wis., will yield $2,000,000 worth of hops this year.

—Mr. Oliver Wilkinson, of Townsend, Vt., has a ewe sheep that has had and raised twenty-two lambs in eleven years.

—Mr. Horace Hurlbut, of St. Johnsbury, Vt., sheared sixty-seven sheep in one day this season for Mr. Moses Huntley, and he did the work well.

—In the upper part of New Hampshire, the storekeepers pay farmers but a shilling a pound for excellent butter.

—Harvest hands get $2 a day in Marion county, Iowa, and reaping machines get $1 an acre for cutting.

—Less skill is required to make whiskey than vinegar. In Germany, they have a vinegar school where the students graduate in four months.

—L. Lindley, Connellsville, Fayette County, Pa., says that his father always kept on hand pickled pork as a preventive of the ague, while families which did not have a supply had the disease.

—There are now in the State of New York more than 500 cheese factories, using the milk of over 200,000 cows. From Herkimer county alone, 18,172,913 pounds of cheese were shipped last year.

—The term "spare rib," as applied to the rib of a hog, is of English origin. The custom there of cutting the sides of a hog lengthwise into "flitches," close to the ribs, leaves the ribs very sparely supplied with meat; hence the term.

—G. W. Howe, Mt. Vision, N. Y., assures the New York Farmers' Club that he has not known the following prescription to fail of curing bots in a single case for over thirty years:—One pint of lard a little above milkwarm and poured down a horse.

—In reply to a correspondent at the North, who asks to know the best place at the South to raise small fruits for market, Mr. Meeker of the *Tribune*, says, "Stay where you are. The earliest cucumbers in New York are not from the South, but from Boston. Let those who will, languish with fevers, and long for the cooling stream, where insects fill the air and drop from the ceiling; let who will, crush cabbage worms by the hour; start, while at work, from the hiss of the adder, and anxiously look to the south west, over parched fields for signs of rain; but let us cling to the grassy horizon of the North."

—A correspondent of the *Prairie Farmer* says that throughout the corn region of Central Illinois, the riding or wheel cultivators are fast becoming unpopular, and the walking double cultivators are taking their place. An improved double-shovel plow is becoming very popular there, and it is thought will prove of great value in cotton and tobacco fields.

—Mrs. M. W. Hayward, of Natick, Mass., writes to the New York Farmers' Club, that some of her neighbors have been paying a dollar for this recipe for washing fluid: 2 lb. of sal soda, ¾ lb. of unslaked lime, 2 gallons boiling water. Let it stand till perfectly clear, then put in bottles. Soak the clothes over night—half pint fluid to a boilerful—soap them and boil an hour. It is good.

—One beet sugar establishment in Germany has a capital of $16,000,000, employs 3000 operatives, and occupies buildings which cover twelve acres of land. European makers annually dispose of 400,000 pounds. The importance of the attempts, in this country, to encourage this branch of industry is illustrated by the statement that during the year ending July 1, sugars valued at $39,595,677 in gold, were imported into the United States.

—Texan papers assert that the various patent processes for preparing beef for northern markets, by canning, infiltration, &c., have practically failed. By the introduction and use of ice machines, by which ice is manufactured on the premises, the atmosphere of the rooms in which the beef is packed, is kept so cool that the meat does not spoil during the operation, and cattle may now be slaughtered during the warmest months of the year, at which time they are in the best condition.

—A contributor to the *Farmer's Advertiser*, says that by feeding young colts a considerable amount of grain, in conjunction with hay and other light articles of food, they thrive better, and their limbs become better knit than when fed only on light food. If a proper supply of food be withheld while an animal is young, it will be injured in its constitution, and consequently in its value, to a far greater extent than any saving that can be effected in its feed.

—Man's inhumanity to cows is often illustrated by abuse of the animal for restlessness caused by the pain inflicted in milking by sharp finger nails. Mr. J. F. Furman, Segel, Iowa, writes to the New York Farmers' Club that one of his cows had always been very sensitive, but that after he commenced milking by clasping his fingers clean around her teats so that his nails could not hurt her, she become gentle. Some cows will bear the pressure of the finger-nails and not resent it, while others will flare up on the first grasp, and knock the pail across the yard; then comes pounding and

kicking. Let us be careful with our cows, and not act without thinking.

—A correspondent of the *Rural American* gives the following directions for making cheap "boxes" to put around vines to keep off hens and bugs: go to the woods, cut down basswood, measure off six feet, cut round the tree, split open the bark on top, peal the bark off, and take it to the house; saw across, in pieces about six inches long; bore a small hole close to the edge where split open; tie a string to keep it fron rolling up, from heat of the sun, and the boxes are done.

—Dr. Hull, of Alton, Illinois, who recently visited the southern portion of the State known as Egypt, found orcharding carried on to an extent that bids fair to overstock the whole West with fruit. He passed from orchard to orchard—two to twenty thousand trees were common; one man had planted 15,000 pears the past spring, and would plant 30,000 more this fall. Strawberries had paid enormously; 250 bushels to the acre, netting $5.75 per bushel, was not an exceptional case.

—After the Solons of the New York Farmers' Club had gravely decided, at a recent debate, that the only practical means of protecting fruit from the fatal sting of the curculio was to jar them upon sheets and destroy them piecemeal, Mr. Robinson said: "Nothing but thunder and lightning would jar my apple trees, for they are fifty feet high. Nor could I hire help enough for $200 to catch the curculio among the thick grass, $100 worth of which would be destroyed; but even if I should go into all this business, I do not see what good it would do, for they would come from my neighbors' trees, and then where would I be?"

—In a note to the New York Farmers' Club, Mr. Storrs Burrows, of Oneida County, N. Y., says the past May was the worst for the farmer in 47 years; the greatest number of rainy days and the least sunshine in any May since 1820. It has thundered three different days. White frost the 10th, 16th, 21st, and 27th. Snow the 14th. On the 4th, ground froze sufficiently hard to bear up a horse. We have had 7 and 46-100 inches of rain; 4-100 of snow. It rained from the 5th to the 9th, from the 13th to the 15th, from the 17th to the 20th, and from the 22d to the 31st, every day. Cows are not giving more than two-thirds of the usual quantity of milk. Our cheese factories complain of light yields.

EXTRACTS AND REPLIES.

GRAFTING THE GRAPE VINE.—EGGS ON SQUASH VINES.

How shall I graft my grape vines? When and where shall I cut off the top? When set the scions and how many buds on them? Will the eggs that are on the under side of squash vines mature if scraped off with the nail on to the ground? How prevent maggots from destroying squash vines? How get rid of witch (or joint) grass in the walk, border and lawn? One of my neighbors says, keep it from going to seed and it will die, like asparagus, and that it will not come up from the seed, but neither seem reasonable. One more, when and how set slips from currants?

A NEW SUBSCRIBER.

Campello, Mass., Aug., 1867.

REMARKS.—We have never grafted the grape vine, and shall be glad to have some experienced person enlighten our correspondent.

We think scraping the eggs of the squash bug from the under side of the vine, and dropping them upon the ground, would destroy them, as being attached to the leaf is their natural position.

We cannot inform you how to prevent the maggot from entering and destroying squash vines.

See recent discussions on witch grass in the FARMER.

To multiply currant bushes, cut slips of the new shoots next spring, and insert them in moist soil to the depth of six to ten inches, leaving two or three buds out. It is better to dig a hole with a trowel than to make one by thrusting a stick down, because that makes the sides of the hole very hard, and young roots will not strike into the soil so readily as when it is lighter.

CLAY ON SANDY AND GRAVELLY SOIL.

A neighbor of mine, Mr. H., has a piece of land of a gravelly and sandy soil. It is warm, quick land, and will produce good corn and grain by putting on a large supply of manure every year. I have been acquainted with the land for twenty-five years. Near it there is a bank of clay, which is very convenient for carting. For the last six years Mr. H. has been dressing this hungry soil with this clay, with remarkably good effect. He says he had rather have a hundred loads of clay than a hundred loads of manure on that land. The manure may produce the largest crop one or two years, but the clay is more permanent in its effects, and in four or five years will produce more than the manure.

I saw the land and examined the crops on it last week, and believe Mr. H. is correct in his statements. The corn had been badly injured by the worms, but the oats were splendid. He said that he could keep the land in good heart with the clay dressing. It should be plowed up in the fall and exposed to the operation of frost during winter. It then becomes fine, is easily shoveled, and readily mixes with the soil. He tips up a load in a place, spreads and plows it in. As there is plenty of such light soil in New England, and as I believe such beds of clay or other suitable material are more frequent than is generally supposed, I have thought this statement of my neighbor's success in the improvement of his field, might benefit others. Wherever the situation is such that twenty loads per day can be carted by one team, such dressing will prove a good investment. We cannot much longer subsist without replenishing our lands in some way.

O. FOSTER.

Tunbridge, Vt., Aug. 11, 1867.

REMARKS.—Such brief hints from actual farm practice are the cream of our agricultural papers. Much has been written about manures, and much more must be written before the subject of plant nutrition is fully understood. The mechanical effect of a dressing of heavy soil upon a light one, or of sand and gravel upon a heavy soil, is more readily understood than is the chemical effect

often witnessed from the mere commingling of soils. To farmers who are so situated as to be unable to buy, or to make the manure necessary to keep up the fertility of their fields, the subject is one of interest.

WILD PIGEON.—*Columba Migratoria.*

This well known bird, commonly called the passenger pigeon, is remarkable for the great rapidity and elegance of its flight. It is supposed to be capable of moving through the air at the rate of a mile a minute. The most singular fact in the natural history of the pigeon is their countless numbers. Audubon saw a flock that contained "one billion, one hundred sixteen millions." One may live many years and not see such a flock as this, though once a year you may see pigeons enough to astonish you. The passenger is smaller than the common house pigeon. Its color is nearly a uniform slate. The colors are deeper in the male, and the neck feathers present the same changeable hues common to all birds of this species. It is only when freshly caught or killed that these brilliant tints of green and gold can be seen to perfection. They fade immediately after the bird is shot. A pigeon roost is a curiosity well worth seeing, and no language can give a perfect idea of the appearance of the place when occupied by its tenants. They come by thousands in a flock, and settle upon the trees around, and the confusion is increased by the upper limbs breaking, owing to their great weight, and falling with a crash upon those who have alighted beneath, carrying death and destruction with them. A noisy scene it is. The clapping of a million pair of wings sounds like the roar of thunder. The passenger pigeons breed in all parts of the United States, and they are often found as far north as Hudson's Bay. The nests are built upon high trees, resembling immense rookeries. The eggs are generally two in number and pure white. Like the common kind, they breed several times in a season. H. M.

Northampton, Mass., 1867.

Remarks.—When a boy, we used to see pigeons enough every spring to "astonish" one. We have seen but few of late years.

LUNAR INFLUENCE.

I recollect hearing people talk, when I was quite a lad, about killing pork, sowing grain, cutting bushes and herbs, and doing various other kinds of labor at a particular time in the age of the moon. The idea always seemed absurd to me, and as I grew to the age of reflection, I concluded there was no ground for such a belief. I commenced a series of practical observations for the purpose of ascertaining, if possible, the truth of the prevalent theory.

When I began to do business for myself, I often took some pains to do such work as was said to be affected by the moon, at the *reputed wrong time*, and I have never been able to discover any difference in my crops, in either field or garden, nor between my own crops and those of my neighbors, other circumstances being equal.

I have always found that those farmers succeed best, who plow their land well, and sow and plant when the ground is in a proper condition to receive the seed, without any reference to the lunar orb; in other words, that farming on the *earth* is more reliable than farming in the *moon*.

Among the many whims about lunar influence, is one which I heard last spring. The weather had been very wet for some time, and some people began to be desponding. Calling at a shop to transact some business, the good lady of the house said, "Do you know we are to have twenty days of rainy weather in succession?" I replied, "No," and asked the reason. "Because," said she, "the *moon changed on Saturday!*" I was further informed that a *change* very seldom occurs on that day. Upon further inquiry, I ascertained that this profound knowledge was obtained from the *Almanac!* I was somewhat surprised at so much ignorance, but made no reply. I came home, and at the first opportunity, I examined the Almanacs for several years past, and ascertained, what I had no reason to doubt, that the new moon occurs once or twice on that day of the week nearly every year. I did not think it worth while to look farther back than 1860. In that year *two changes* occurred on the ill-omened day; in 1861, three; in 1862, two; in 1863, one; in 1864, two; in 1865, two; in 1866, one; in 1867, two; *fifteen times in eight years.* By this it will appear that a new moon on the last day of the week is no great rarity. I believe it occurs as often on that day as on any other. Now in regard to the weather following such changes. I find by reference to a meteorological record which I have kept nearly twenty years, that in the twenty days next succeeding each of the above mentioned changes, not more than eight were at any time attended by rain, until this year, when after the change, 5th mo. 4th, rain fell in *eleven* days.

Like the belief in *ghosts* and *witches*, the idea that the moon exerts a powerful influence over animal or vegetable life must yield to the light of knowledge, and will ere long be remembered as a relic of superstition.

I resolve the whole theory of lunar influence upon vegetation into *moonshine*, thus: the moon is just as large one day as another, and its mean distance from the earth is nearly the same, hence the force of its attraction must be about the same at all times,—this is shown to be the case by the regularity of the tides. Now the different phases of the moon are caused by a greater or less amount of light reflected from that luminary; consequently, if the change, quarter or full, exerts the influence claimed by some, it must be caused by the amount of reflected light; in other words, by *moonshine!*

Reflect upon this, ye who deem pale Cynthia so puissant! Lay aside your prejudices, and exercise your reason. Never take an assertion for fact, even though it may have descended as an *heir-loom*, through a long line of venerable ancestry. L. Varney.

Bloomfield, C. W., 7th mo., 1867.

SUBSTITUTE FOR POLLEN.

Your New Hampshire correspondent "F" wishes for a substitute for "bee bread." I would like to copy an article from Langstroth's work on the honey bee, for him.

"Though the importance of pollen has long been known, it is only of late that any attempts have been made to furnish a *substitute*. Dzierzon, early in the spring, observed his bees bringing rye meal to their hives from a neighboring mill, before they could procure any pollen from natural supplies. The hint was not lost; and it is now a common practice in Europe, where bee-keeping is extensively carried on, to supply the bees early in the season with this article. Shallow troughs are set in front of the apiaries, filled about two inches deep with *finely-ground, dry, unbolted rye meal.* Thousands of bees, when the weather is favorable, resort eagerly to them, and rolling themselves in the meal, return heavily laden to their hives. In fine, mild weather, they labor at this work with great industry, preferring the meal to the old pollen stored in the combs. They thus breed early, and rapidly recruit their numbers. The feeding is continued till the blossoms furnishing a preferable ar-

ticle, they cease to carry off the meal. The average consumption of each colony is about two pounds."

I have used rye meal for two years with good success. SELRAHC.

Worcester Co., Mass., Aug., 1867.

TO CURE MILDEW ON GRAPE VINES.

One pound whale oil soap, dissolved in one quart hot water. Add to this one pound pulverized sulphur and eight gallons soft water. Let it stand from six to eight hours, stirring from the bottom of barrel or tub, three or four times, when it will be ready for use. Stir well before using, and apply with garden syringe. Do not fear, for it will not injure the vine or fruit. Let every leaf have a dose, and the enemy is defeated. It is a cheap and reliable remedy. I have used it with success this season on one hundred and eighty vines, after all other "cures," as they are termed, had failed.

East Walpole, Mass., Aug. 10, 1867. J. M.

THE RANGE OF BEES' FLIGHT.

This is a subject of great importance to bee-keepers, as it has been supposed that bees fly only about three miles when collecting honey, consequently there was a fear of overstocking an apiary. Having ascertained that there were no bees on Kelly's Island (Lake Erie), in the spring of 1866 we established an apiary of the Italians there, for the purpose of rearing pure queens and ascertaining the flight of the Italians for feed. In less than a week after they commenced to fly, they were busily at work on the other end of the island, more than *five miles* from the apiary. This season we intend to carry some of the bees in a boat off on the water, and put them to work on feed, and ascertain just how far they will work from the hives. We are of the opinion, however, that they will not fly as far across the water as on the land, where there is a continuous supply of flowers to call them from the hives. We will report further on the matter at the close of the season. W. A. FLANDERS & Co.

Shelby, Ohio, 1867.

REMARKS.—We shall be happy to publish the result of your experiments. Such statements of facts are worth far more than mere theorizing.

SALT THATCH TO COVER STRAWBERRY PLANTS.

Will you inform me, through the FARMER, whether salt thatch would be good covering for strawberries in winter? A. GREEN.

Amesbury, Mass., 1867.

REMARKS.—We have no doubt it would. All covering should be slight, and whatever saline matter was washed from the thatch would be very slight, and we should think would prove useful. However, we have never known it used, and would advise to employ it cautiously.

STANCHIONS FOR CATTLE.

I noticed an article some time since in the FARMER, written by "C. H. W." of Wiscasset, objecting to stanchions as "barbarous," &c. I will allow that the stationary ones are so, but I am using, as are many others in this section, a kind that are as easy as chains, while they are more safe, convenient, and much better every way. There are many disadvantages in the use of chains. They are not safe, cattle often getting badly hurt or killed; they break and let the cattle loose; they are unsafe for children to tie with, and inconvenient for any one. I turn out my cattle twice each day in winter, and once a day in summer, which makes about 1100 times in one year, so that the saving of labor with stanchions is quite an item, especially as small children or women can occasionally take care of the cattle, who could not if they were fastened with chains. Cattle get very dirty in chains by lying in the manure, getting wet and uncomfortable, while in my stanchions they lie to one side of where they stand and keep themselves much cleaner. A. L. W.

Hope, Me., Aug. 2, 1867.

CUTTING GRAIN.

Having a piece of grain so badly beat down and crippled by the late storms, that we were unable to cut it with the cradle, we determined to try it with the mower; raking off by hand each swath as fast as cut by the machine.

We found this plan to succeed quite well, and the grain was gathered in bundles, as nearly straight, perhaps, as could have been done in any other way, from the bad condition the storms had left the field.

There was, however, one serious objection to this plan. The team had to stand still much the larger part of the time; the two rakers not being able to gather near as fast as it fell from the knives of the machine. There were about three acres of the rye, and after spending two or three hours on it we found the field was not cut by considerable.

Another expedient was then hit upon, which succeeded somewhat beyond our expectations, and we have thought that some account of it might perhaps furnish a hint to some reader of the FARMER, in like circumstances.

The plan was as follows: a piece of stout rope, some five or six feet in length, was procured. One end of this was made fast to the outside shoe; the other end was knotted and slipped into the slot of the "bar latch." Another rope, a little longer than the first, was then attached to the machine in like manner. The shorter rope, as the grain pressed on it, was kept about a foot or so above the longer one. The longer one was kept on the ground by the weight of a stick four feet in length and about the size of a fork handle; the stick having a short fork or crotch on the end next the straw. This served to gather the grain by sweeping it along with the machine as it fell.

When a good lot of it was thus gathered—say fifty to a hundred pounds—the machine was stopped, backed up a little, and the grain, with but little trouble or delay, taken up and laid in bunches ready for binding. The straw falling in one direction was swept along as fast as cut, the butts coming together nicely, while the heads, from laying in all directions, were necessarily gathered in about the same positions; though occasionally a lot was found wonderfully straight and even.

Now, neighbor farmers, we don't pretend that this will serve every purpose just as well as a reaping machine, though the reaper is far from being as perfect a machine as the mower. But one thing is certain, we shall not wait very long "for the man to get ready to come to do our cradling" another year. R.

Chestnut Hills Farm,
Norfolk, Mass., Aug. 15, 1867.

BEE-BREAD—MANAGEMENT OF BEES.

Your correspondent, "F.," must be mistaken in supposing that his bees died from the lack of bee-bread. I have kept bees for ten years, but I never heard of bees dying from this cause before. I know that bee-bread alone will not keep bees alive; and I also know that honey will, as long as they can get it. Many colonies starve every winter, even when there is plenty of honey in the hive, owing, in part, to the way the comb is built in such

hives. Bees sometimes build their combs down, without leaving any holes to pass through from comb to comb, and if the owner fails to make any winter passages in the fall, three colonies out of five will die before spring.

Now I contend that all bee-keepers should know how the combs are built in this respect. He should also see to it that they have plenty of honey, a good queen, and are free from worms, &c. Any bee-keeper who has the frame hives in common use, can know all about his bees at any time during the winter or summer, and if he does not attend to these things he will probably find bee-keeping unprofitable. We are using a frame hive here (in Essex County, Mass.,) which is as near perfect as a hive can be, for wintering bees. We have wintered bees in them for the last two seasons, and when these hives were opened in the spring, they were found to be free from mould or moisture, and the combs were as clean and bright as at any time during the summer. Bees in these hives do not consume near so much honey during the winter, as those do which are in common hives. The hives were described by your correspondent "W." in the Farmer of August 10.

Mr. John Gould, of Wenham, had fifty-one stocks last spring; twelve of which were in the hives alluded to, and these colonies were the first ones to swarm, and the colonies which made the largest amount of surplus honey. These hives are so constructed that corn cobs can be placed in the winter directly over the bees, which keeps out the cold, preserves the heat, absorbs all the moisture which rises from the bees, and secures good winter passages for the bees to pass from one comb to another.

If your correspondent had such a hive as this, he would lose less bees, and have better success, generally, in keeping them. H. Alley.

Wenham, Mass., Aug. 20, 1867.

Muriate or Butyr of Antimony.

Has any one ever used Butter of Antimony for foot rot in sheep, so that they can tell us whether it will cure, without any thing else, if applied to the foot, and whether it as good as vitriol?

Roxbury, Vt., Aug. 20, 1867. Y. F.

Remarks.—We are not certain what our correspondent means by the expression, "without any thing else." Water will put out fire, "without any thing else." But if a fire is kindled in the ceiling of your house, floods of water dashed against the outside clapboards, or the inside walls, might not quench it. The experienced fireman, in such case, would at once make an opening, and "play away" directly upon the fire. When the heat and blaze were subdued, he might "hold on," but he would carefully examine for some smouldering heap, or mere spark, which, having escaped his stream of water, might kindle into a new conflagration. Thus with the inflamed foot of the sheep; the remedy must be applied directly to the diseased part, and so thoroughly as to "put out" every spark or germ of the disease, or a radical cure will not be effected. It is difficult to do this when the disorder has secured a lodgment under the hoof and about the claws of the poor sheep. And it is idle to expect that any "application to the foot" of the best medicine in the world, "without any thing else," will infallibly cure so insidious a disease as the hoof-rot. With the proper preparation of the foot, and the necessary subsequent care, we presume that butyr of antimony is a reliable remedy. A correspondent of the Ohio *Farmer* says that he has cured over four hundred sheep by its use. He pares the hoofs of those that are affected very closely, cutting away carefully every diseased part, then with a feather, or small brush, applies the antimony very thoroughly. He also brushes in a little between the hoofs of those which show no signs of the disease. He overhauls all his sheep once in two weeks, and generally finds five or six applications to remove the disease entirely.

After specifying ten recipes that are in common use, the most popular one in Central New York being 1 lb. vitriol, ¼ to ½ lb. verdigris, 1 pint linseed oil, and 1 quart of tar, Dr. Randall says "any of these remedies, and fifty more that might be compounded, simply by combining caustics, stimulants, &c., in different proportions and forms, will prove sufficient for the extirpation of hoof-rot, *with proper preparatory and subsequent treatment.* On these last, beyond all question, principally depends the comparative success of the application." Consequently, we cannot recommend the butyr of antimony "without any thing else."

Garget in Cows.

Will you or some of your numerous correspondents, tell me what I shall do for my cow? She has what is called the garget in her bag. What is the cause of it, and how shall I treat it? By replying to the above you will much oblige one who has taken the Farmer as many years as any other person. P.

Hinsdale, N. H., Aug. 21, 1867.

Remarks.—This disorder, which it is feared is on the increase in our dairies, is ascribed to various causes. It is sometimes produced by external injury. It is often ascribed to colds contracted by exposure to the changes and storms of our climate. While others believe that, like the gout in the human foot, garget in cows often results from high feeding, and from the preternatural development of the lacteal organs produced by such high feeding, and by a long course of breeding for the special purpose of securing a race of deep milkers. Two years ago the subject was somewhat extensively discussed in our columns, but as we did not then print a monthly edition of the valuable suggestions of our practical correspondents, and as we furnish no index to our weekly sheet, few of our readers will be able to refer to the courses of treatment then recommended. One writer who does not object to medicines, either external or internal, if you cannot get along without them, says that whenever a cow comes home affected with the garget, he puts her in the cow-house where she has a warm dry bed, feeds her on dry hay, and allows her to go to pasture but a short time the next day—in one word, as another correspondent said, he treats her as patients should be treated with a cold and inflammation, believing that, in the particular case alluded to, the cow had actually taken cold from lying upon the damp ground. Frequent milking, with gentle and patient rubbing

and kneading of the bag, and washing with warm water; or spirits and water; or camphor and vinegar; or soft soap diluted in water; or lime water, about as thick as white-wash, mixed with an equal quantity of flax seed oil, well beaten together with a knife, as an ointment; or tincture of arnica, with twice as much water, or rum and water; or bitter sweet ointment, or any similar application that requires or encourages much rubbing and working of the bag. To move the bowels, a good mess of potatoes, or garget root, or horseradish, or from four to eight drops of tincture aconite dropped on a piece of bread, and mixed with her feed, or, as was confidently recommended, by Mr. G. W. Stearns, of Brookline, Mass., a heaped spoonful of saltpetre well mixed with any "mess" the cow will eat, may be administered.

WAS IT A "FAILURE?"

H. Griffin, Esq., Essex Junction, Vt., says: "That winter wheat, that I told you I was going to sow last spring, which was frozen and sprouted before sowing, as well as some I sowed in the field dry, proved a failure." Should Mr. G. sow his *spring* oats and garden seeds in the *fall*, we should call it a *blunder*, not a "failure." Winter wheat is not to be sown in spring. We cannot tamper with natural laws. H. P.

Brooklyn, L. I., Aug. 23, 1867.

WHAT WE WILL DO.

But though part of our time should be given to mirth.
A part, too, we'll spend in improving the earth,
For we'll rise with the dawn,
Plant squashes and corn,
Potatoes and roots,
And all kinds of fruits;
Keep bees for their honey,
And thus save our money
To provide us with plenty in seasons of dearth.

SUBSCRIBER.

Dedham, Mass., Aug. 7, 1867.

STRAWBERRIES.

I intend trying to raise a few strawberries, also a few blackberries, in my garden next year, if I can procure some nice plants. Can you inform me the best kinds to cultivate, and how to cultivate the same. Where can they be obtained, and at what prices? What time of year is best to set them? C. M. MANSFIELD.

West Berkshire, Vt., Aug. 23, 1867.

REMARKS.—In common with many others in this latitude, we have had poor success in ripening the Lawton and other "garden blackberries." Strawberries are as easily raised as potatoes or cabbages, if you keep the chickens and weeds out of the bed. Hovey's Seedling is still popular with our market gardeners. Probably some of your village neighbors can supply you with plants. All nursery men have them for sale. Spring is perhaps the best time for transplanting, but then you must wait till the next year for fruit. August is a good time, if rainy, or September will answer. Take well rooted runners in preference to old stumps, and don't let the roots dry. The land should be in good order for a large crop of corn. The rows may be three feet or so apart, and the plants from ten to eighteen inches in the row. We have practiced the plan of working up a slight ridge in the centre of the furrow or trench for rows, over which the roots are spread and covered, leaving the plants, if the soil is rather dry, a little below the general surface. A sprinkling of ashes is very good. A mulch of leaves, or other materials without the seeds of weeds or grass, applied in the fall, will protect the plants and make a clean bed for the fruit.

LIME AND SALT FOR HAY.

Last season the Secretary of the Little Falls, N. Y., Farmers' Club, and editor of the Utica *Herald*, opposed very decidedly the practice of using salt or lime in curing hay. He confessed that he had had no experience in the use of lime, but said that salt injures stock by compelling the animals at times to eat more salt than the system needed. He had seen cows fed on hay salted in the mow, and apparently of good quality, which produced very bad results, running the stock down thin and poor, and necessitating an entire abandonment of its use. A correspondent of the *Country Gentleman* who had abandoned the use of salt after six years' trial, alluded to the above article as pleasing evidence that one sensible man agreed with him on that subject.

On the contrary, another writer for the *Country Gentleman*, stated that he had for some twenty years used about six quarts of salt to a ton of hay, and it was free from must, and was bright and fragrant as tea. One year, his hay being cut without a drop of rain, the salt was omitted, and musty and inferior hay was the result.

A correspondent of the *Western Rural* makes the following statement:—

My hay was rather moist when I put it in the mow. I salted it, as I always do, and limed it with air slacked lime; putting on two or three quarts to the ton, at intervals, as when salting hay. The hay when fed out in winter had no must about it, and was, in quality, equal to any that had been put up. The kind was, in part, a mixture of timothy and redtop, and one lot was made up of timothy and clover.

At a late meeting of the Irasburg, Vt., Farmers' Club, the following statement was made by Mr. S. K. Locke of Irasburg, who keeps 250 sheep, 20 head of cattle and three or four horses.

Some of the hay was put in so green that, under ordinary circumstances it would have been nearly spoiled by heating; but he applied from two to four quarts of salt, and an equal quantity of slacked lime to each ton of hay, and the hay was found uninjured and in good condition, and all the stock did well, and the horses especially

gained flesh. The hay in the pitching place, where pressed hard, came out uninjured. Salt and lime do no good where the hay is dry, as moisture is required to change them and give them preserving power. He thinks they are healthy.

At a late discussion of the subject of hay-making, by the Little Falls, N. Y., Farmers' Club, Mr. Joslyn stated that he had been very successful in treating hay with lime and salt mixture.

To four quarts of salt add two quarts of lime; mix, and of the mixture use three quarts per ton of hay; scatter over the hay in the mow when the load is half off, and again when the load is off. Commenced using this mixture seven years ago, and since that time has not had a sick horse or cow. The hay can be put in green and comes out green, and with no dust. Horses fed on such hay do not have the heaves; his horses used to be troubled with heaves, but have not had any of this trouble since he commenced using the salt and lime.

SOILS RUNNING OUT.

"It is plain, we think, that lands will not run out of themselves,—but there is no doubt but they *may* be run out. An incessant cropping without any return will reduce their fertility. They cannot forever satisfy the cry, give, give, unless something be given back again. Yet Mother Earth is generous of her bounties, and gives more than she requires. She will kindly loan us the whole of her productions, if we will return them after using. By a strict compliance with this requirement, we may secure her bounties."

Some farmers appear to favor the belief that there is a natural and incorrigible tendency in all soils to "run out," or grow annually less and less productive, however great may be the attention and care bestowed upon them. This, however, is an error. That land *has* "run out," and, indeed, is perpetually seen to be doing so, under the careless management of many who style themselves farmers, is a position too apparent to admit of a doubt; but that this waste of productive energies is attributable to any innate tendency to "run out," or become unproductive when properly managed, we can no more believe, than that the atmosphere is annually becoming less capable of sustaining animal life. The quantity of oxygen contained in the latter is always the same; and in all cases fully adequate to the performance of the offices and functions assigned to it; yet, if we should confine ourselves to a room containing only so many gallons of oxygen, and which might suffice to sustain life for a day only, we should not expect to enjoy health, or to retain life, after it had been exhausted.

So with the soil. If a course of severe cropping is adopted, we find that, after a certain time, and after a certain amount of staple has been abstracted from it, its resources begin to fail, and finally become exhausted. It has produced all it is capable of producing, and to ensure a continuance of productiveness, that of which it has been deprived must be returned in the form of manure.

Could *all* the vegetable matter perfected by an acre of land be returned to it, it would, with the working which cultivated soils generally receive, be more than competent to retain it in its pristine health and vigor,—for plants of all kinds derive a portion of their sustenance from other sources than the earth, as from the atmosphere, for instance, and perhaps from other sources also,—but this is not done, and, as a purely natural and strictly inevitable result, the soils "run out."

In one of our agricultural publications, a writer, after some very judicious and well-toned remarks on the subject of manuring says:—

"I still maintain that lands will not run out of themselves. If left in the state of nature, or after having been cleared, if left uncropped, it is well known they will fully retain their natural state of productiveness. It is even asserted, and with good reason, that lands left uncropped will actually gain in fertility. And why should they not? Vegetables derive considerable part of their nutriment from the atmosphere, if therefore they are left to rot on the ground they will return to it not only all they derived from it, but also that portion which was derived from the atmosphere, except what may escape during their decomposition in the form of gas, which is doubtless considerable. But if instead of being left to rot on the ground the crop be ploughed in, then the soil will be enriched by the whole amount of nutriment which the plants derived from the atmosphere. It would, therefore, be of service to know what crops derive the greatest proportion of their nourishment from the atmosphere, as there would be an advantage in selecting those for green crops to plough in."

☞ The farmers in Amesbury, Salisbury, and West Newbury, have been deceived and sold by a dashing fellow who has been visiting them with a splendid team, selling patent machines by which great weight could be lifted—a load of hay or a ton of stones at one time—and put in any desired location. The machines were to be delivered, and their notes were taken in payment. The notes were sold in Haverhill and in second hands become good against the givers, while no value is or ever will be received.

A VERMONT REPORT ON SCOURED MERINO FLEECES.

Owners' Names.	Age of Animals.	Weight of carcass.	Weight of Fleece unwashed.	Weight of Fleece scoured.	Age of Fleece in days.	Amount of Wool grown in 1 year.	Amount of Wool grown in 1 year to one pound of carcass.	Per ct. of shrinkage in cleansing.
Rams.		*lbs. oz.*	*lbs. oz.*	*lbs. oz.*				
Wiley & Bosworth,*	2	116	17 8	7 8¼	369	7.449	.0642	56.75
Edwin Piper,*	2	120 8	18 8	6 12	355	6.940	.0575	63.51
H. & N. Locke,*	4	123	20 8	6	365	6	.0487	70.73
D. D. Williams,*	1	74	12	4 4	360	4.278	.0551	64.58
Henry Safford,*	2	127	20	4	360	.055	.0319	80
J. R. Walker,	1	113	15 4	5 13¼	360	.924	.0524	57.82
N. P. White,	1	90	12	5 10¼	370	.887	.0654	50.26
Ewes.								
C. Horace Hubbard,*	2	60	9 12	5 14¼	362	5.954	.0991	39.42
C. Horace Hubbard,*	3	85	9 8	5 1¼	365	5.093	.0599	46.39
E. X. Pierce,*	3	79	10 8	4 11	348	4.915	.0622	55.35
J. G. Davis,*	1	69	9	4 9	365	4.562	.0773	49.30
M. C. Roundy,*	2	62	12 8	4 9	369	4.522	.0729	63.49
C. Horace Hubbard,*	3	76 8	10 8	4 3¼	365	4.218	.0551	59.82
C. Horace Hubbard,*	3	68	9	4 4	369	4.203	.0618	52.77
C. W. Pulcifer,*	1	49	5	3 15¼	365	3.968	.0813	20.62
M. C. Roundy,*	2	53	8	3 14	369	3.832	.0723	51.62
Arthur Williams,*	1	45 8	8	3 14¼	370	3.754	.0825	52.42
George Wiley,*	1	45	9	3 11¼	390	3.390	.0753	58.68
M. C. Roundy,*	2	50	7	3 10¼	369	3.307	.0661	47.76
Leverett Brown,	2	50	8	4 13	335	5.304	.1048	39.84
James E. White,	1	58	8 8	4 8	365	4.5	.0775	47.05
Leverett Brown,	1	70	12 8	4 10½	335	4.312	.0616	62.74
James R. Walker,	2	81	10	4 3½	365	4.217	.0520	57.82
C. W. Pulcifer,	2	60 8	7 8	3 10¼	329	4.021	.0664	51.66
C. & L. G. Ellis,	1	45 8	8 4	4 3½	365	3.923	.0884	48.86
C. & L. G. Ellis,	1	60 8	7 8	3 10½	375	3.741	.0668	51.25

The foregoing tabular statement embodies the results of the scouring of twenty-six fleeces of wool under the direction of the spirited agricultural society of the town of Springfield, Vt., of which C. Horace Hubbard is President. These sheep were publicly shorn April 25th, under the superintendence of a committee consisting of Hon. J. W. Colburn, Messrs. H. M. Arms, B. F. Dana, and L. R. White. The sheep were weighed to half a pound, and the fleeces to half an ounce. The fleeces were tied with a uniform quantity of twine, which was included in the gross weight of the fleeces, but not in that of scoured wool. Six of the fleeces were scoured at the mill of Holmes, Whittemore & Co., in Springfield, and the other twenty at the mill of James Tilton, in Cavendish, and all under the immediate personal supervision of Henry M. Arms of the committee, and were uniformly and thoroughly cleansed, and carefully weighed.

By way of explanation of the foregoing table, the committee in their report, published in the *Country Gentleman*, append the following remarks:

The first five fleeces in the ram list, and the first twelve in the ewe list, (marked *,) are from thoroughbred Spanish Merinos, the others from grades. The weights of carcass, of fleeces unwashed and scoured, are stated in pounds and ounces; the other weights in pounds and decimals.

It is found that the average shrinkage of the Merino rams' fleeces, "shorn in the dirt," is 67 76-100 per cent., and of Merino ewes' fleeces, is 51 32-100 per cent.; that of grade ewes' fleeces 52 25-100.

For the purpose of showing to the Society the relative character of its sheep for the production of "real wool," we take the liberty to compare a few of the fleeces with those of the New York State Society, at Rochester, in 1866. The heaviest ram's fleece of that Society is 6.653 pounds scoured wool. Wiley & Bosworth's fleece, above, is 7.449 pounds, and Mr. Piper's, 6.94 pounds; and Messrs. Locke's is more than 47-100 of a pound heavier than any of the 14 New York ram fleeces, with the one exception above. Mr. Hubbard's heaviest ewe fleece is 64-100 of a pound heavier than any of the New York ewe fleeces.

In analyzing the tables showing the product of scoured wool in proportion to time of growth and live weight, we find the greatest weight of wool in a year by one pound of animal, at the New York shearing, to be .083 of a pound. Messrs. Ellis's fleece gives .088, [.086 ?], Mr. Hubbard's .099, and Mr. Brown's .104, [.106 ?], or more than one pound of wool to every ten pounds of carcass..

In closing the report, we congratulate the Society upon the result of this, our first, effort in this direction. Comparing the weight of our *scoured* fleeces with those of other societies, shows that the breeders of our town make at least a respectable appearance.

For the New England Farmer.

APPLES IN WESTERN NEW YORK.

During the past ten or twelve years, the apple crop of Western New York has assumed an importance, as a market fruit, that could hardly have been considered possible at any previous time. The section having been settled and cleared up during the last fifty or sixty years, the first orchards set out are still in full vigor. As they were set for family use, with little reference to distant markets, they were not large, averaging, perhaps, two acres.

Fifteen years ago a large share of these orchards were natural fruit. While of the grafted trees many were set to inferior or unproductive varieties, and many to coarse sweet apples for feeding, that have had to be grafted over again. As the demand became more constant, farmers turned their attention to the cultivation and grafting of such kinds as were most called for, and they begun to set out new and larger orchards,—some of from ten to twenty acres. A few of these new orchards have commenced bearing, while many have only been set from one to five years.

The cost of picking, barrelling and taking to market, may range from twenty-five cents to one dollar a barrel; varying with the yield and condition of the fruit, and the distance from market; but probably averaging about fifty cents. On low trees, that hang full of fair fruit, needing little sorting, a good hand will pick and put up from ten to twenty barrels a day. Where the fruit is thin and needs sorting, from five to eight barrels will be a day's work. With a suitable rack, a team will draw from eighteen to twenty barrels of apples at a load. Railroads and canals being convenient, it very seldom, if ever, takes more than one day to go to market; and often several loads are drawn in a day.

Although in some seasons a few hundred barrels of apples could be sold, as long ago as twenty or twenty-five years, it was often the case that the finest kinds could not be sold at any price; but had to be taken for cider, or fed out. Some fifteen years ago there begun to be a regular demand, and the apple trade assumed the proportions of a regular business. At first the price was fifty cents to one dollar a barrel; and once or twice going up to from one dollar twenty-five to one dollar fifty for the apples; the buyer finding the barrel or paying for it, as is always the case here. But during the last ten years, the average prices have largely advanced. The average for the last ten years being from one dollar fifty to two dollars; for the last five years from two dollars fifty to three dollars, and the last two years between four and five dollars a barrel.

The demand for Western New York apples is very large, and widely extended. From a small local demand, to supply the cities and villages here, the market has not only extended to Chicago, St. Louis, and many other places west; to many of the cities and towns in Canada; to Boston, Providence, and most of the other cities in New England; as well as to New York, and vicinity, but a large portion are sent to Philadelphia, Baltimore, and many places in the Southern States, as well as to the West India Islands and Europe. The Southern and foreign export trade is said to be very large, and only limited by the supply. To a very large extent, this is also the case with the home demand. Downing says that American apples are equal if not superior to those of any other part of the world. And in no part of this country are apples grown superior to those of Western New York for productiveness, fairness, and good quality as to flavor and long-keeping. Keeping longer than Western apples, they are wanted in Chicago and other places west for the spring trade. Being earlier and better than Canada apples, a considerable portion goes to the Provinces. The demand in New England is partly governed by the local supplies, and partly by the quality. In New York the demand and price is probably governed by the supply in the country generally, and the demand for export. South, the demand must be governed by the supply and the means to buy with. For, as they cannot raise apples that will keep through the winter and spring, their supplies of this fruit must come from the north. While it is said (American Fruit Culturist page 18) that "large portions of the Eastern continent would gladly become purchasers as soon as sufficient quantities should create facilities for a reasonable supply."

But it is not our best apples only that are wanted. Last fall fifty cents a bushel were paid for culls and inferior fruit, to send to some place near Boston—as I was told—to make cider. And a writer in the *Rural New Yorker* says: "Extensive buildings and cellars have been erected along the eastern portion of the Erie canal, and other places, for manufacturing the best quality of cider. To supply these with apples to manufacture several thousand barrels each, cider apples are bought as high as fifty cents per bushel, along the canals and railroads, and moved one to two hundred miles. The cider is refined and put up in casks and bottles, and sent south and to the cities, and sold at a large profit—such a profit as must increase the number of these establishments."

In regard to the amount of apples grown in Western New York, I am sorry my data is so meagre. But still, with such as I have at hand, approximate results at least may be reached. According to the census of 1850, the value of the orchard products of this State was $1,761,950. In 1860 it was $3,726,380; making an increase of nearly $2,000,000 in ten years. While this includes other orchard fruits, like pears and peaches, the following refers exclusively to apples. Such data as I have been able to collect, being mostly ob-

tained from local papers and dealers, that ascertained the several amounts, partly by finding out the amount sent off by canal and railroad, and partly by dealers comparing notes of purchases and sales in different places—and probably as correct as the census. I say this data renders it very probable that the most if not all of the above increase was realized in some eight counties in Western New York. The amount returned for these counties—$1,566,388—being over 42 per cent. of all produced in the State in 1859. The same data also shows that there has not only been a large average increase over the amount returned by the last United States census, but as the price has largely increased, there has also been a great increase in the amount of money received. As, for instance, it has been pretty reliably ascertained that in 1863 the amount received in Orleans county for apples, was not far from $500,000, the crop being very large and the price averaging nearly two dollars a barrel. While in 1865, when the price went up to five dollars, it was found that some $700,000 was paid to the farmers of this county for apples. In 1863 the Rochester *Democrat* sent reporters to all of the markets in Monroe to ascertain the amount of apples sold in that county. The conclusion reached by this investigation was, that "the entire crop of Monroe county for the past year (1863) has probably reached a value of not less than $1,000,000." As the price has been so much higher for the last two years, there has probably been one or more years, that the value of the apple crop greatly exceeded this amount; but how much I have not been able to ascertain. But enough is known to show that the apple crop of the eight counties referred to, has reached a value at least three times as great as the amount returned by the last United States census; or from four and a half to five millions of dollars a year.

Now this is a greater income and profit from fruit, it is believed, than was ever before realized on the same investment of labor and capital. For the principal part of this great amount, is for fruit grown on the common farm orchards, set and kept for farm use, and with little idea of growing apples for market. Yet in this county, which is small, having only nine towns, the crop of apples must average between $250 and $300 to each farm, while numerous cases might be given where sales range from $500 to $3000 in a single year.

Western New York, 1867. F.

For the New England Farmer.

THE GARDEN FOR SEPTEMBER.

The gardener's labors are constantly varying from February to December; but this succession by no means dispenses with the necessity of labor and watchfulness. You may recollect the story of the result arising from "the want of a pin in the bars"; of equal importance is it that there be no want of a pin to admit of the bars being let down in the garden operations; as a single want, or neglect, may be the means of a failure in some important crop. September work of the garden consists mainly in gathering, storing, or marketing, &c. Much good judgment and energy are called into action in order to enable us to reap maximum profits. Much also may be done toward forwarding another year's crops, in preparation. Considerable of the spring labor with hot beds may be saved by starting many of the plants most in demand in spring, during this month, and pricking them out into cold frames when well started; or they may remain and be covered with leaves, boards, &c., for winter protection. They will thus be found ready to transplant and grow, as soon as the frost leaves the ground in spring, and it is fit for culture. The beds to start such plants in should be made in a warm, moist location, and plenty of moisture may be found almost anywhere this season, so far. They should be well forked over, mixing in a good coat of well rotted manure, and the surface thoroughly fined with the steel rake—no danger of getting it too fine; then sow your seed in drills about six inches apart, if to be covered in with a cold frame; a foot apart, if to remain in the open ground and covered with mulch, &c. If the plants are likely to get large, transplant to check growth; as too much fall growth will tend to cause them to run up to seed in the spring. Cabbage, lettuce, onions, spinach, &c., may be started in this way and be ready for early spring with little trouble.

Beans.—Gather and put in a dry place as fast as they ripen; when well dry, shell and put away in boxes, after spreading and drying. Label those for seed with variety and date of growth. Lima beans not ripe, if picked and dried before frosts, make a very acceptable dish for the table in winter.

Blackberries.—Cut out the old canes and the weaker young shoots, leaving one or two of the strongest for next year's fruiting.

Celery.—Earth up the advancing crop, when dry; being careful to close the leaves together so, that no dirt will get in the centre. Be careful not to cover the centre bud or get any dirt in it.

Cauliflowers.—See that they do not get too far advanced before gathering, as, also, broccoli.

Corn.—The earliest ripe ears should be saved for seed for future use. Braid them up in tresses, by the husks, and hang in an airy, dry place.

Cucumbers.—Pick every day for pickle, and put down in salt in a suitable tub or cask; putting a sprinkling of salt and then a layer of pickles, and so on till full; the pickles will furnish juice sufficient for brine. Properly salted and stored they will keep two or three years, and furnish good pickles, after soaking and freshening; an operation which will re-

store them from their shrunken, withered appearance. Make sweet pickles of the ripened cucumbers not wanted to go to seed.

Grapes.—Unless good attention has been given, they will have mildewed, more or less, from the unusual wet and cold of the season. Gather when fully ripe and preserve for family use, or market; use care in gathering, not to rub or bruise them; preserve the bloom on them to the fullest possible extent, as it adds much to their attractiveness.

Hops.—Gather before frosts, dry and preserve in boxes or barrels for use. It is better to remove them without cutting the vine till fully dry, as the vine will bleed and injure the root for future bearing.

Manure.—Saving and making all that can be turned into usefulness is always in order; too much can hardly be had for profit.

Raspberries.—Cut out the old bearing wood and tie up the young canes; hoe and clean them out thoroughly.

Squash.—Pick and pack away where they will keep dry and safely before frosts touch them. Being a tropical plant, they will not bear even a moderate frost without injury.

Tomatoes.—Make pickles of the green ones, together with peppers, small cucumbers, string beans, nasturtions, &c. A slight protection from the first early frost will continue the vines fresh and in bearing some weeks, frequently. Can and make catsup from the ripe ones.

Continue to gather and save all seeds as they ripen, also all vegetables and fruits as they arrive at perfection. Cut sage and other herbs as needed. W. H. White.

South Windsor, Conn., Aug., 1867.

For the New England Farmer.

ABOUT FLIES.

"Flies, flies, flies, flies!
From pools, and fens, and bogs, and sties,
As in Egypt of old, the swarms arise,
Darkening the windows and clouding the skies,
Covering earth with their dark disguise,
Filling the air with their hungry cries;
In at our mouth and nose and eyes,
Making us mad, however wise,
At the plague of the flies, flies, flies,
Flies, flies, flies, flies!"

So sang the distracted poet, probably some warm September afternoon, when the swarms were peculiarly thick and troublesome. "Where *do* they all come from?" is the thousand times repeated question. Perhaps a brief reply may not be unacceptable.

It was formerly taught that flies "are begotten of dung and of any other filthy matter putrefied by heat in summer time." Many people, even at the present day, believe and write such nonsense, and it would not be surprising if the inquiry should call out sundry letter-writers who will gravely maintain that flies are produced from decaying vegetable and animal matter, and call other people fools for not believing them. The old adage, fully believed now by every scientific man, "*Omne vivum ex ovo*," "*everything* living comes from an egg," is sufficient to refute all such mistaken beliefs. "Spontaneous generation" is a myth, whether with reference to fly-maggots in a dunghill or pollywogs in a mud-hole, or oaks upon a prairie. The only thing spontaneous about it is the idea itself, and that, in fact, is hatched from the big egg, Ignorance.

So, whatsoever some may believe or teach, it is certain that wherever there is a maggot, there was an egg, and, before that, a fly to lay the egg. The eggs of the common house fly, however, are always deposited in dung or some other decaying substance, and in that sense it is true that flies come from decaying matter. These eggs are very small, cylindrical in shape, and shining like pearl. If a little decaying wheat be placed in a tumbler in the summer, eggs will generally be deposited upon it, and their curious transformations may very readily be followed.

In about twenty-four hours, varying somewhat according to the weather, the eggs will be hatched, and the little white, footless maggots will appear. Their heads are provided with two small hooks with which they cling to their food, or perhaps tear it in pieces. They live on the filth with which they are surrounded, eat greedily and grow rapidly to the length of a quarter of an inch or more. In about a fortnight the little maggot ceases to eat, its skin becomes brown, and it becomes a pupa, and remains at rest for another two weeks, when, having perfected its changes, it bursts its shell and comes out an active, buzzing fly.

Such is the simple biography of our much-despised *best friend*. For, with our notorious carelessness in regard to decaying refuse, surrounding our houses with filthy cess-pools, and stench-breeding, pestilence-breeding offal, as we do, what would become of us were it not for these myriads of flies and other insects that live in, and devour, such substances, ridding us of the filth that we are not neat enough to rid ourselves of? And if, as Dr. Harris well observes, "these filthy, dung-bred creatures swarm in some houses, covering every article of food by day, and absolutely blackening the walls by night, in others comparatively few are found; for the tidy housekeeper takes care not to leave food of any kind standing about to entice them in, and makes a business of driving out the intruders at least once a day."

Dr. Harris's *fly-poison* may be of service to some readers, inasmuch as it is as certain death to flies as the most approved "fly-papers," and is very simple, and harmless to all human kind, being nothing more than well sweetened *green tea*.

The above, however, is but little of the story of the fly; for take him in all his modes of life, his structure, and the curious adaptation of the various parts of his body to his needs, he is one of the most curious things in nature. The feet are provided with two little hooks,

and between them is a soft cushion covered with hairs, by means of which the fly is enabled to walk up the ceiling, or head downward, or wherever else it pleases. It was formerly thought that this cushion on the foot acted like a sucker, so that when the air was exhausted beneath, the insect was held suspended by the pressure of the air outside. But it was found that the fly could cling as well where there was no air at all; and later investigations have shown that many of the minute hairs with which this cushion is covered, are little tubes, exuding a gummy substance by means of which the fly sticks to the wall or window-pane. The hair feet serve another important purpose also, as all have seen, being used as brushes, in keeping wings, face, and other parts clean.

The general appearance of the tongue is well-known to every one—a short tube or sucker with a fleshy knob or disk at the end. This disk is ridged and covered with hairs, making a sort of rasp of it. It is the rubbing of this that causes the tickling sensation of the fly's bite, and aided by a saliva that it secretes, enables it to devour sugar and other hard substances. In a groove in the tongue are two little sharp bristles, which can be thrust down like a lancet into anything which the fly is eating. In the fly which oftens torments us so during stormy days in summer, these sharp bristles become almost needles in size and strength; and in other insects, as the mosquito, their number is increased to five or six, often with little hooks at the end, which are broken off and left in the wound when the tormentor is suddenly driven away. The irritation from the bites of flies and other insects, is generally, however, produced by a slightly poisonous saliva injected into the bite.

When we consider the enormous number of young that flies produce—some single blow-flies, for instance, depositing 20,000 maggots, which, in twenty-four hours, increase to two hundred times their original size, and in a few days arrive at maturity, each in turn ready to repeat the process—we can readily credit the saying of Linnæus, that "three flies will devour the carcass of a horse as quickly as a lion," and we can appreciate, in some sort, the important position they hold as the scavengers of nature. We are also more readily disposed to believe the accounts of the enormous swarms of flies that have sometimes appeared—covering every part of a vessel at sea and leagues of ocean around, raining down before the wind, as in Lincolnshire, in 1699, "so that people had to turn their backs to them as to a storm of hail;" destroying hundreds of cattle, and even depopulating whole countries, as has happened repeatedly in the Levant.

Some of the whims and superstitions of people in regard to flies, recorded by Cowan,—"Curiosities of Insects,"—are curious enough. The tail of a wolf, buried in a house, will keep out flies. To dream of flies denotes enemies; to dream that they went into one's mouth or nostrils forbodes great sorrow. A multitude of flies denotes a plague. If one fall into the glass, as a person is drinking, great good luck will surely befall the drinker. Flies dying in great numbers in a house betoken the death of some member of the family. If flies bite harder than usual there will be rain (which seems to be true.) Pliny says that flies' heads are a specific for baldness, and Mucanius, who was thrice a consul, used to carry a live fly about with him as a preventive of ophthalmia!

The Philistines and Canaanites worshipped Beelzebub, the god of flies. The ancient Peruvians made sacrifices of flies to the sun. In Scotland a tutelary fly presided one of the fountains, and another large blue-bottle was currently believed to be a witch. Among some of the ancients, punishment was inflicted on criminals by smearing them with honey and exposing them to the stings of flies, till their flesh putrefied and they were eaten up by maggots.

The famous Regiomontanus of Nuremberg, it is said, made an iron fly that would dart out from his hand and, taking a round, return and alight again. One of the bishops of Naples, however, performed the most remarkable feat we have any account of, for he not only made a brass fly, but he placed it on the gates of the city and trained it so that like a shepherd's dog, it prevented any other fly from entering Naples; so much so, that for eight years the meat exposed for sale in the market, was never once tainted! V.

Dec. 10, 1866.

For the New England Farmer.

THE CROPS ON THE SEABOARD.

Thus far the season has proved most unpropitious for that class of farmers whose farming lies close akin to market gardening.

With the exception of the very earliest of the early varieties of potatoes, the rot prevailed to a degree of fatality that has never been excelled in all our experience, if ever equalled. About all the early crop of Sebec and Orono, (usually, but erroneously, called Jackson Whites,) are gone by the board. Some tracts of several acres in extent, that have received the highest culture possible have been offered in return for a single barrel of sound potatoes. Some farmers, with four hands at work, get out eight barrels of sound potatoes after a day's digging, which have brought them from $1.25 to $2 a barrel, after having been carried fifteen miles to market.

The Jackson White, (the true Jackson White is nearly a round potato,) has fared somewhat better than the Sebec, but still is sorely afflicted.

The early Goodrich, though growing side by side with the Sebec, has thus far been but little affected by the rot. Our farmers don't like the early Goodrich, as an early variety, on account of its small size, when compared

with the Sebec, and because, though it is as early as the Sebec, yet it does not attain to market size as early as that very prolific variety. Last season the early Goodrich, grown side by side with the early Sebec, matured about a week earlier, but this season they are full as late as the Sebec, and to those who do not make fair allowance for the early blighting of the Sebecs, *appear* to be even later. The less degree of liability to rot, on the part of the Goodrich, must tell powerfully in their favor.

Onions, carrots, late cabbages, squashes and late cucumbers promise poorly. The maggot has worked much more than usual in the onions this season, so that we shall not have more than two-thirds a crop under present auspices, and should this enemy continue his attack as late as some seasons heretofore, then we cannot have over half a crop. Carrots are generally thin, very few plots being free from many blank spaces.

Previous to the recent heavy rains, late cabbages looked very unpromising,—most of them being covered with the plant louse; but these rains have washed them clean, and with propitious weather I think one-half or two-thirds may rally and give us fair heads.

The squash crop until within a fortnight promised to be as near and not a failure as was ever known; now it looks better and promises to yield from one-third to one-half an average, though there are many tracts that do not now promise a ton to the acre. The long cold and wet spell, bugs innumerable and more persistent in their attacks than I ever knew them to be before, and a bountiful supply of maggots at the roots, have given the poor vines a hard battle of it. Such squashes as have set thus far, make but a slow growth, and promise to be of small size when matured.

The first cut of hay has been remarkably abundant, especially upon upland, and the promise for a good second cut was never better. On the range of meadows back of where I reside, as often as not, three crops of hay are cut annually,—the second and third crops combined, equalling the first,—which is about as much as can be made on the ground. These meadows are usually heavily dressed with rockweed, two years out of three. Apples in town promise better than for several years past.

On the whole, without croaking, our farmers are having a hard year of it.

J. J. H. Gregory.

Marblehead, Mass., Aug., 1867.

Effects of our Climate on Grapes.—The St. Louis Valley *Farmer* comments as follows on this subject:—

The extreme variations in the temperature of the State (Missouri) and throughout the country generally, is an important item, frequently amounting to 70° in twenty-four hours. The rapidly succeeding alternations from heat to cold, frost to thaw, and the intensity of the sun's rays from 12 to 3 P. M., form another great item; and not least (though least observed), we have the awfully drying winds in winter and spring, rendering this one of the most trying climates on the *vital force*, in animal or vegetable, that exists.

In summer, our dry and wet spells—our sudden changes from hot to cold nights—our arid winds and intense suns in July and August—impair or destroy the foliage: and with diseased lungs and digestive apparatus, how can wood, or buds, or fruit be sound, or constitutional vigor be maintained?

From Once a Week.

A MAN-OF-WAR IN THE ACORN.

An oak-tree, wrestling with the wind,
Shook down an acorn where I stood;
I turned aside, I would not crush
That little orphan of the wood.

It was as smooth as the brown egg
That prisons in the nightingale,
By fairy files was notched and barred,
Its cup symmetrical as frail.

In bowls like this, the moonlit dew
Elves gather from the violet flowers,
Or from the hawthorn shake the drops
Remaining from the noonday showers.

A spirit showed me, hid within
The acorn's little dusky shell,
A floating tower, perhaps to ride,
Three centuries hence, on waves that swell

Around the iceberg's sapphire cliffs,
Or the rough Baltic's storm swept strand;
Perhaps to threaten with its fire
Some bastion of the Eastern land.

Yes! see above the bulwarks smile
Frank, sunburnt faces, as the guns
Vomit their thunder-burst of flame—
Those cheers are from old England's sons!

See, down go colors, spars and mast,
Blood-spouting like a dying whale,
The rival ship has struck, and now
The dear old flag flaunts in the gale.

Then once more rings the lusty shout,
And once more rings the stirring cheer,
O'er the dark blue rolling waves,
That smites the proud foeman's heart with fear.

Sail on, brave ships, spread nobler faith,
A truer creed, a wider love;
For on your sails, from opening skies,
Glance rays of glory from above!

Sail on, sail on, ye winged towers!
Far be your angry thunders hurled,
And bear our Heaven-lighted flag
Around a subjugated world.

The vision fades. Now let me plant,
With reverent hand, the acorn seed,
Deep in the kindly English soil,
On which the oak loves best to feed.

May happy summers nurse the bud,
And April's brightest, softest showers,
Widen this germ to nobler life,
And give its limbs a giant's powers!

Rock, but rend not, ye winter storms!
Spare, spare, the helpless little tree;
Earth, nurse it kindly till it float,
Bulwark of Home and Liberty!

For the New England Farmer.

SINGULAR FREAK OF LIGHTNING.

A correspondent sends us the following account of a somewhat wonderful freak of lightning.—

During a thunder shower in Methuen, Mass., in June last, the lightning struck upon three large oak trees on the farm of Mr. Irving Stevens, about forty rods from his house. Mr. Stevens, who was standing near his dwelling, was nearly lifted from his feet and partially stunned. The trees were not much injured. It only broke the twigs on the branches, and took off the bark about a foot square from the trunk of each tree where it passed to the ground, on every one following a seam. It then struck upon a wall by the side of these trees, along which it ran for six or seven rods, scattering the rocks on each side; throwing a rider nearly two rods; making a gap in one place through which a pair of cattle might pass, and plowing a good sized furrow the entire distance. It then passed off at an acute angle, making a smaller furrow for about a rod. But what was marvellous in this occurrence, the lightning in its course broke large rocks in several places into fragments. A large foundation stone, that would require a yoke of cattle to move, was broken into small pieces as though it had been under a hammer. This stone was very hard, being a silicious limestone. It was broken across the grain into irregular pieces. I send you some specimens, which prove very clearly that facts are stranger than fiction.

Here we have a tangible exhibition of the intensity of one of the forces of nature. If, in this instance, it could break the solid rock, we can easily understand how, under other circumstances, nothing in the solid earth could withstand its power. Prof. Agassiz says, the forces of nature that have caused such wonderful formations in the crust of our globe, are the same forces that we find operating now; only they operated in much greater intensity during the periods that preceded the existence of man. As the Creator gradually fitted the earth for man's abode, he confined the giant forces with which it was made, each within its own limits; and so mollified the dispositions of each (so to speak) that mankind could by degrees get the mastery and control of them. Electricity or lightning, heat, light, air, water, steam, the gases and others are all, now, his obedient servants.

We need not go back to nursery tales or the days of mythology to excite our imagination with the deeds of giants and demigods. We live in the days of the giants; and every day makes us more familiar with them. Here is one, who, in a playful mood rends the solid rocks in the twinkling of an eye. The heavens tremble with the roar of his thunder, and man, shocked by his brilliant light, stands dumb, feeling his weakness. And yet, this is a harmless giant, destined to lend his great power and speed for the service of man. He has, as yet, no competitors on the race course; for his speed, of which every one who has heard of a telegraph, has some idea, is even greater than that of light; and completely puts Old Father Time in the shade. But his great strength, is, perhaps, not so generally known to your readers, because not so generally used. Let me give, therefore, a single instance, by way of illustration.

With a small porcelain battery, that could be put into a man's hat, electricity has been produced that has propelled a boat on the Hudson, in the State of New York, with four men in it, and against the current, at the rate of twelve miles an hour. This giant is much stronger than his brother Steam. In fact, there seems to be no measureable limit to his strength. He is also much safer; for, although very quick, he is not subject to such sudden explosions when in service as the other, whose irascible temper, when ill treated, has cost many a valuable life.

There is only one hindrance to this powerful helper lending his aid in all the daily avocations of man. That is the great cost attending the construction of batteries. Those of the kind I have mentioned, require platinum in their structure, a metal that is more costly than gold. Whenever science surmounts this difficulty, we shall have the aid freely, of this most powerful friend. The thunders of his voice reverberate now harmlessly among the clouds, as if he were calling upon men to hasten to make use of his mighty strength.

August 17, 1867. ELDON.

TRANSPLANTING HOP SUCKERS.

Since the missing hills of a large number of the last year's planted hop-yards are destined to be filled with suckers from the remaining hills of the same yard this season, and the time for setting is at hand, for the benefit of the inexperienced, a few hints are herewith suggested.

Those shoots putting forth below the top of the crown, and further down, and in nearly a horizontal course, reaching the surface ten and twenty inches from the main root, are the ones to be selected for planting. The time of planting must not be deferred till the tops of the shoots have reached a growth of more than four or six inches—from one to four inches being the best age. Within this period the tops are in the process of leafing, are pulpy, bulky at the base, and taper symmetrically to the ends; the bodies of the roots portly, juicy, of a healthy whitish color, supplied with a germ of rough fibres on the most fleshy parts near the base of the tops, with a diminutive, shrivelled, rusty appearance at point of juncture with the main roots, denoting but a feeble connective circulation; explaining the fact already learned by experience, *i. e.* that

the suckers within this age are in the best condition for forming self-sustaining roots, and that after having grown twelve to thirty inches, according to the length, the roots become smaller and tougher, less juicy, and more vigorous and thicker at the point of connection with the main roots, the root fibres weaker, the tops leaner and wiry; and accordingly, the plant more nearly approaches the nature of the bearing vines; becomes more dependent on the main plant for support, and proportionately loses its root-germinating powers. From this evident fact will be seen the necessity of transplanting the suckers at their earliest age.

Carefully removed from the main root by cutting or breaking, without bruising, when the tops are not more than one or four inches long, and planted early in a damp time, suckers are superior to seed roots planted in the spring, and with nice care, planted soon enough, will bear half a crop the first season. The older suckers having materially lost the inherent property of establishing a healthy, self-supporting root, when transplanted will grow and often do very well; but will seldom attain a mediocrity, and most generally amount to nothing. Those missing hills that have been filled out with aged suckers, with an idea that the older they are, the better, has proven this fact at a dear cost to the owners of the yards.

In planting, dig, four or five inches deep, two longitudinal holes leading away from the center of the hill, in opposite directions, and put one good plant in each place, with the tops near together at the centre, and roots leading away; and first cover with a tier of fine fresh dirt, and then fill up and press with the feet.—*Dell Pilot, in Prairie Farmer.*

Kelly Island Grapes.—In giving an account of a late visit among the Islands of Lake Erie, the editor of the Ohio *Farmer* found cultivators very anxious as to the grape crop. He says:

Last year we found a light set of fruit, and that little, half destroyed by rot. This year there was a monstrous set of fruit, with but little appearance of disease up to the second week in August; then came a right smart touch of rot. If the disease should make no further progress, there will be left to ripen, as great a burden of fruit as the vines can carry. What discourages and confounds the grape growers in this instance is that the rot should make its appearance, under circumstances hitherto considered the most favorable for a healthy condition of the fruit. If the grape growers could have had the making of the weather, they could not have made it more to their mind, and to have their grapes rot under such circumstances, upsets all their philosophy. The rot is much the worst in the Catawba, but we saw touches of it in the Concord also. The Delaware shows but little sign of the disease.

STONES ON CULTIVATED LANDS.

We have more than once given our *theory* as to the value of stones on cultivated lands. Not only with regard to stones that are so large as to impede the operation of implements used upon the farm, but those, also, which lie broadcast upon the surface, or bedded in profusion just below it. The large and fast ones certainly ought to be sunk, as it is too expensive to travel over or around them, and the small ones are too much in the way of the hoe and scythe. Bury them in the earth. It costs no more to sink the large ones than to get them out, haul away and *fill the holes* which they leave. If small ones are exceedingly numerous, some of them may be used to fill holes where large ones, wanted for walls or building purposes, have been taken away.

Some one may inquire why stones are not needed on intervales or loams, where they are not found? We are not quite certain why they are not needed. Such loams are highly charged with vegetable substances, and in low lands have probably been receiving mineral matter from the wash of the hills for thousands of years. Or, if the loams are on high lands, they are made up from disintegrated rock that contained various minerals—but especially potash—which had been crumbling to pieces for untold ages.

The point is this: is land that abounds with stones benefited or injured by taking most of them away? It is clear to us that it *is* injured,—

1. By lowering the level of the land.

2. Leaving it compact, heavy and inactive, by obstructing the natural drainage of the soil.

3. By taking away a portion of mineral supply to the soil. Geologists and chemists tell us that a *granite* soil will consist chiefly of *silica*, (that is, flint, sand,) *alumina*, (that is, the pure earth of alum,) and *potash*; and in addition to these, a *trap soil*, (that is a soil made up mostly from green-stone,) will contain much lime, magnesia, and oxide of iron, or iron rust. If the variety of trap consist chiefly of *hornblende* (which is itself a combination of silica, magnesia, lime or iron,) as is sometimes the case, the soil formed from it will have nearly 250 pounds each of lime, magnesia and oxide of iron, in every ton of decayed rock!

"When the two minerals, hornblende and felspar are mixed, as they are in the variety of

trap called greenstone, the soil formed from them must be still more favorable to vegetable life. The potash and soda, of which the hornblende is nearly destitute, is abundantly supplied by the felspar; while the hornblende yields lime and magnesia, which are known to exercise a remarkable influence on the progress of vegetation."

These references show the importance of stones to the land where they lie, and they also show why the subsoil, taken from a foot or two below the surface, and used as a top-dressing, often answers a better purpose, even, than rich, nitrogenous manures. It is full of mineral matter, that has been exhausted from the surface soil by a succession of crops. It frequently happens that a top dressing of yellow loam will bring a luxuriant crop, where common manures have failed. We have seen *wheat fields*, dressed with barn manure, where the growth of stem and leaf was very rank, but produced no seed. Had they been dressed with fine gravel, sand, or yellow loam, we have no doubt they would have produced twenty to twenty-five bushels of excellent wheat to the acre.

For the reasons given above, it is best to keep most of the stones that are on or near the surface *in the soil*. If the *subsoil* is not filled with them digging will be easy, so that they can be placed below as cheaply as they can be carted away. Large ones may be sunk whole, or split with wedges or blasted and then sunk.

The article below is to the point, and was published in the *Gentleman's Magazine*, England, as long ago as 1773. It is well worth reading and remembering.

"It has been long known to experienced farmers, that taking away very small stones and flints, is detrimental to plowed lands in general; but more particularly so to thin, light lands, and all lands of a binding nature. It was, however, never imagined that the damage could be so great, as it is now found to be, since unusual quantities of flints and other stones have been repeatedly gathered for the use of turnpike and other roads.

In the parish of Sterenage, in Hertfordshire there is a field known by the name of Chalkdell field, containing about 200 acres; the land in this field was formerly equal, if not superior, to most lands in that county; but lying convenient for the surveyors of the roads, they have picked it so often, and stripped it of the flint and small stones to such a degree, that it is now inferior to lands that were formerly reckoned not much over half its value, acre for acre. Nor is it Chalkdell field alone that has materially suffered in that county by the above mentioned practice; several thousand acres bordering on the turnpike roads from Wellwyn to Baldock, have been so much impoverished, that the loss to the inheritance forever must be computed at a great many thousand pounds.

What puts it beyond a doubt that the prodigious impoverishment of the land is owing to no other cause but picking and carrying away the stones, is, that those lands have generally been most impoverished which have been most often picked; nay, I know a field, part of which was picked, and the other part ploughed up before they had time to pick it, where the part that was picked lost seven or eight parts in ten, of two succeeding crops; and though the whole field was manured and managed in all respects alike, yet the impoverishment was visible where the stones had been picked off, and extended not an inch farther; an incontestible proof of the benefit of the stones."

MARKET GARDENING.

The bright side of this subject has been often presented in city papers, and the envy of country farmers may have been excited sometimes by the big figures which have been used in expressing the income from single acres. In a late number of the Boston *Cultivator* a "Middlesex Farmer" draws a darker picture, by alluding to some of the expenses and uncertainties of the vegetable business. After stating that land which twenty years ago could have been bought for $25 to $100 per acre, now sells for $1000 to $2000, he says, in order to carry on this business with any prospect of success, a young man wants a large capital to start with if he intends to compete with old and experienced growers; some of whom have $50,000 in land, buildings, teams, tools, glass, mats and other coverings for hot-beds, fences, manures, &c.

To illustrate the uncertainty of the business he says:—

When spring is opening, the most anxious thought of the farmer is, What will be the best paying crop this year? One year potatoes pay best, next year a failure; one year squashes pay best, the next a failure; one year cucumbers pay well, next year nothing; one year onions $6 a barrel, next year $1; one year pickles 12½c per 100, the next they go to a high figure. So the farmer is in a *quandary;* he sees his neighbors selling hay at $40 to $50 a ton, and no great trouble or risk to raise it; so he about makes up his mind he will raise hay; while talking about it, the pickle dealers come to him and coax him to raise so many acres of pickles, they promising to advance the price to 14c a 100. Many farmers dread a change in crops, system or help; so they go on in the old track with but little variation. Many of the farmers a few miles farther from Boston contract to raise pickles every year. Last year they, hearing that squash-raisers got $30 to $40 per ton for their squashes the year before, concluded to raise squashes last year;

result: squashes could not be sold for $10 a ton, while pickles were short and prices higher. This year in spite of skill, the squash crop is very small; last year the potato crop paid a good profit; this year disease attacked them before they were grown enough to dig for market, and the disease spread so rapidly that this crop was nearly a failure; many patches did not pay for digging; all the labor put upon the crop is lost; the difference of $8 a barrel last year to $1 or $1.50 this, is a great item to the raiser.

The cost of raising early potatoes and other vegetables has been greatly increased of late by the necessity of sprouting them in manure or hot beds, and then transplanting, as in case of cabbages. The following case is cited.

Last spring a worthy farmer purchased 100 bushels of Chenery potatoes, cost $300; about the same amount for the Sebecs; the land and seed were the best, and all necessary labor was bestowed on the field of about 16 acres. A few days ago a large gang of men were set to digging the potatoes; result of one day's work, one barrel of potatoes, that might rot in 12 hours afterwards. The owner has directed (so reported) to plough in all the crop and sow grass seed. Last year the crop on the same land sold for $1700. In another case, last year, from about the same number of acres, the crop sold for over $2000; this year at the present time it promises as good results.

Fodder Corn.—A large proportion of the farmers of Massachusetts, and many in other parts of New England, cultivate a patch of corn to be fed green to their cows after the pastures begin to fail, as they usually do late in the season. Animals eat it greedily, both when green and when partially dried. What has been the experience of the readers of the Farmer, as to the state in which it should be fed? Many, we know, feed it immediately after cutting; others allow it to become more or less wilted before it is given to them. The editor of the *Utica Herald* advises cutting in the morning after the dew is off, and allowing it to remain till evening, by which time a portion of the large amount of water it contains will have evaporated. When thus fed, he says a better quality of milk is obtained than when fed green.

The Oxides of the Metals.—Observing recently in a meadow the wide diffusion of the oxide of the metal, iron, resulting probably from the decomposition of iron pyrites, and that the water of the brooks was freely used by a large herd of cattle, the thought came up, that of all the metallic oxides that of iron is almost the only harmless one. If the oxides of copper or lead were as widely diffused the result would be most disastrous. The daily absorption into the system of even minute quantities of most of the metals is followed by consequences of a fearful kind. So, too, of the carbonates, and other salts. If carbonate of baryta were as abundant as carbonate of lime, animated life would probably fail before its deadly influence. The wise adjustment of substances with regard to their sanitary influence upon men and animals is a matter which can hardly be overlooked by an observing mind.—*Journal of Chemistry and Pharmacy.*

AMERICAN GRAIN AT THE EXPOSITION.

After the gratifying accounts of honor which American mowers and harvesters reaped at the great World's Fair at Paris, we are somewhat taken down by the result of our show of cereals. We are in the habit of thinking of the western part of the United States as the granary of the world, and of young Chicago as standing high among the grain marts of the world. We also understood from our Western papers that measures had been taken for a creditable display of the productions of the fertile soil in our grain growing States of the Mississippi valley. We are, therefore, a little disappointed by the award of premiums in the grain department of the Paris Exposition, and by the following remarks of the intelligent correspondent of the *Prairie Farmer* upon this part of the exhibition.

In the amount of specimens in this department, which embraces "cereals and other eatables, farinaceous products, with their derivatives," we were as well represented as other nations, though our arrangement for showing them was inferior. Yet this writer says, "were Indian corn and a few samples of wheat out of a great number, especially those from California, excluded, we should have but little left to show the fertility of our soil, or the adaptability of our climate to the production of animal food, or the skill of our farmers as evinced in the tilling of the soil.

Lest some may consider me as doing injustice to our country, continues this writer, let them look at the award of premiums upon collections of cereals, just made. They will find the gold medals distributed as follows; Russia, three; Prussia, five; France, four; Portugal, two; Spain, one; English Colonies, (Australia) one; Duchy of Mecklenburg, one;—none going to the United States. Of the silver

medals, one goes to the United States (California) the rest as follows: Great Britain, one; France, one; Belgium, three; Austria, seven; Spain, three; Italy, four; Chili, one; Egpyt, one; English Colonies, (Canada,) two. Among the bronze medals we figure to the extent of six, while France carries off seventeen; Greece, one; Sweden, two; Italy, seven; English colonies, twenty-four; Belgium, five; Prussia, ten; Turkey, two; Portugal, six; Russia, nine; Sweden, one; Morocco, one; Brazil, one.

Among the Honorable Mentions we find two awarded to the States, while the remainder are distributed in about the same proportion as the silver medals, among other countries.

With the exception of Duryea's preparation of corn, called Maizena, and well known in the States as an article for puddings, &c.,—very nearly the same thing as corn starch, but superior—I think all the higher awards for the preparation of farinaceous matters go to other countries.

Indian corn, is, I find, grown more or less in almost all parts of the world. In few places, however, do the larger varieties approach the products of the Western States. In Australia we have the most successful competitor. Indeed all her cereals are of very fine quality. The valley of the Rhine also contributes quite creditable displays. But for the entire continent, where it grows at all, they must depend upon the smaller varieties of flint corn.

The people here are gradually being educated up to acknowledge the fact that maize may be really a palatable and healthful article for diet. Each year will witness an increase in the demand of our corn for human food, as well as food for beasts. Where grown, it now forms a large share of the food of the peasantry.

In regard to other cereals it is difficult to state from whence come the best specimens. The case of English Pedigree wheat is very fine, the heads being of gigantic size, but it hardly excels in many respects, that from California, while it must be admitted that Southern Illinois and Michigan send most excellent samples. The Surprise Oats of Illinois find competition, successful perhaps, in the New Market Oats, weighing fifty pounds to the bushel, and in the samples from Sweden. The most uniform grain on exhibition is barley. Almost every country presents it, and it is uniformly good. In the French and German departments we find most beautiful samples of beans, in great variety. Much more attention is paid to the cultivation of this crop here than in the States. Of course beans form an important article of diet all over Europe, but one nowhere meets with the "baked beans" of New England. A large, white, kidney bean, called *Haricot*, is to be had at all times at French restaurants, especially in those of second rate character.

From all I can learn, I should judge that rye is every year becoming a less important crop, both in Great Britain and on the continent. The samples I have noticed are in no wise remarkable, either at the exhibition or growing in the fields. It is very certain that the specimens from our own country are not of unexceptionable character. Much of it is but very indifferently cleaned.

For the New England Farmer.

CHEMICAL TERMS.

By the alchemists and earlier chemists, arbitrary terms were applied to the substances which they treated. Nothing was taught respecting their composition or properties, by the names by which they were known. Such terms conveyed no definite meaning to the uninitiated. Indeed, they were often given for the express purpose of concealment. The whole subject of chemistry was then involved in mystery, which has hardly yet been dissipated from the minds of persons who have paid no attention to the subject.

A simple thought which was seized by the French chemists in the latter part of the last century, and made the basis of a system of nomenclature, did much to remove the veil of mystery in which chemistry was involved, and from that time it took its place among the fixed and definite sciences. This thought, which has wrought such a wonderful change in the whole subject, was simply that the name given to any substance should describe its composition. The chemical names now in use do actually describe, so far as is possible, the elements which enter into the composition of the bodies to which they are given. The adoption of this system of naming, introduced a new era into chemical science, and rendered it one of the most delightful and fascinating studies.

Some knowledge of chemistry has now become a necessity to agriculturists. Chemical terms are now found in all treatises upon agricultural subjects, and it is important that all cultivators should know precisely what is meant by these terms. I think, Mr. Editor, it will be useful to your readers who have not had an opportunity to study the elements of chemistry, to give a definition of some of the terms in common use in agricultural papers, books and discussions. Without a clear and definite understanding of the terms used in discussing any subject, we cannot have distinct ideas respecting the subject itself.

As I do not propose to define chemical terms in general, but to confine myself to those which are most commonly used in agricultural works, I shall not attempt any special classification of them, but shall speak of them as they occur to me. Two or three short articles will include all I have to say upon the subject.

I will begin by giving definitions of some of the terms used in chemical operations and manipulations.

ANALYSIS.—This is derived from two Greek words which signify to loosen, to divide, to let

go. By this term is meant the division of compound bodies into the simple substances of which they are compounded. There are two kinds of analysis, the *proximate* and *ultimate*. By proximate analysis is meant the separation of bodies into the more obvious and sensible substances of which they are composed. By the proximate analysis of a plant, it is reduced to woody fibre, sugar, starch, gluten, albumen, oil, resin, coloring matter, &c. These substances are called proximate elements. By the ultimate analysis these proximate elements are reduced to carbon, oxygen, hydrogen, nitrogen, phosphorus, &c. These are called ultimate elements, because the reduction can be carried no farther, and we have reached the simplest or ultimate substances which enter into the composition of the several parts of the plant.

Synthesis is the opposite of Analysis. It is derived from two Greek words which mean to put together. It means to reconstruct by putting together the substances of which a compound body is composed; to re-unite the separated elements in their proper proportions.

Chemical Affinity is that property which disposes bodies to seize upon and unite with each other, forming new bodies entirely distinct from either of them before they were united. It also keeps them united until some substance is presented which has a stronger affinity for one of them than they have for each other. When this happens, a divorce takes place between the substances that had been previously married, and a new union follows, under the influence of this same law of affinity between the new substance presented and one of the others, while the remaining one is left in a widowed condition, and ready for a new union. Thus, if to a solution of sulphate of iron, which is sulphuric acid combined with oxide of iron, you add a quantity of potash, the sulphuric acid, having a stronger affinity for potash than it has for the oxide of iron, will leave the oxide of iron and unite with the potash, forming sulphate of potash, and the oxide of iron will be left in the form of a brown powder, or rust.

Solution.—When a solid body is dissolved in a liquid, so as to become clear and transparent, it is called a solution. In this case, no chemical union takes place, but merely a division of the particles of the solid body, which are diffused in the liquid. The particles are so minutely divided that they are not perceptible by the eye. The change that has taken place is mechanical, not chemical.

Solvent.—Any fluid that will perfectly dissolve a body is called a solvent. Water will dissolve gum, but it will not dissolve resin. Alcohol will dissolve resin, but will not dissolve gum. Water then is a solvent of gum; alcohol is a solvent of resin. In most cases the power of solvents is limited; that is, they will dissolve only a certain proportion. If more is added, it either falls to the bottom or renders the fluid turbid; because the particles are imperfectly divided and merely float about in the solvent.

Precipitation.—If to a solution of any solid another body is added, that causes the particles of the solid to separate from the liquid and fall to the bottom, these particles are said to be precipitated, and the process is called precipitation; and the substance which thus falls to the bottom is called a precipitate.

Concord, Mass., Aug. 25, 1867. R.

For the New England Farmer.

NEED OF BETTER FARMING.

I am not a farmer, and do not presume to instruct members of that most ancient craft. I simply seek for information.

I have seen a field of which one portion produced barely a half a ton of hay to the acre, while another portion yielded three half tons or more per acre. I said to myself, something is wrong here. If that soil is good for three half tons, wherefore is the owner content with one-third that amount? Is it good husbandry or patriotic?

"We have not time to break up the whole piece." Have not time to cultivate your land? Wherefore, then, have you the land? The earth is given for the support of God's creatures, and are you guiltless if simply to be the proud possessor of broad acres, you hold on to that which you cannot use?

"We cannot afford to manure highly and farm thoroughly." Do you really mean to say that skill, intelligence and the use of capital are thrown away in the care of the soil? If so, yours is the only craft of which that can be truly affirmed.

Where is the farmer who can truly say he gives to each and every acre of his farm the attention necessary to develop their best and entire resources? Yet why stop short of that point? I know of one farm, not a bad specimen either, where field after field is scraped over year in and year out at the lowest possible rate of production. The man bought his land and paid for it, and is content with reaping but one-third the proper crop. What would be thought of one who should erect a ten thousand dollar dam across Connecticut River and then occupy the whole with a one-horse shingle shop? You would say it was a foolish operation. Is he wise who avails himself of but one-third the "power" of his farm? Yet I fear there *are* many such. I know farms, which I think could be divided into several parts and each part yield a profit equal to that of the whole, as now carried on.

This whole matter may admit of explanation, which will show that everything is done rightly, but it looks otherwise to me. It seems unpatriotic in this, that land is occupied that is not adequately improved; thereby depriving

the country of a portion of its rightful resources. The owner will neither till the soil himself nor part with a portion to one who will.

I have been told that a certain man used to be obliged to go twice to Boston to market, with his pork, &c. every year; but that now one horse could draw all that the entire district, where he lived, has to spare. Such a state of things tends directly to individual and national impoverishment. I do not like to think that the art of the agriculturist is behind others in this age. I do not believe it is. But there are some things that need reform. You will hear it said that no farmer can make money who hires his work done, or who has a farm so large as to need much hired help. Perhaps he cannot, but he ought to, just as much as in any other department of business. True one who invests a thousand dollars in a farm, and hires all his work done ought not to make more money than men do in other business managed in the same way; yet to say that hired labor is necessarily unprofitable is, or ought to be, incorrect.

It seems to me that our farmers should not be content with half a crop of any sort, when the full one is attainable. If more or better machinery is needed, let it be had, and as cheap as possible, but by all means let our farms be better tilled. A.

New Hampshire, 1867.

For the New England Farmer.

HEDGES FOR RAILROAD FENCES.

In an interesting letter from India, the writer says, that, in many localities, the railroads are fenced with hedges of the Cactus and Prickly Pear. They form an effective barrier against cattle, and are grown so thickly that a bird can scarcely fly through them; and when in bloom their rich and gay colors greatly enhance the beauty of the scenery. As we see these plants tenderly cultivated in green houses or in conservatories, we hardly realize the profusion and luxuriance in which they grow in their native soil, or that they can be made so useful. As the subject of fences is becoming a matter of grave importance in the older States and in the Western upon the open prairies and woodless plains, cannot our railroad companies take a hint from this custom, and seek among the gifts of nature material for live fences, that shall be durable and at the same time ornamental? I wonder why well established companies do so little towards improving the appearance of their roads, when they are so lavish in fitting up passenger cars and in ornamenting locomotives; why the rough banks are not smoothed down, the unsightly places cleared up and some kind of vegetation encouraged to grow to cover the fresh gravel and sand, and keep down the dust. It could not be said such work was done solely for the pleasure and comfort of the travelling public, for it would materially benefit the railroad companies. A thick mat of grass would effectually prevent the washing and gullying of steep banks which continually occur in their unprotected state. The land along the track could not be turned to a better purpose than to producing live fences. There is ample room for double, triple and quadruple rows and even belts of trees. I do not know as this climate will afford such showy and formidable barriers as the tropics. In the South and Southwest, the Cherokee Rose would make a cheap and effective fence. In the Northern States selection can be made from hardier plants, as the Buckthorn, the evergreens,—Hemlock, Spruce, Arbor Vitæ, and White Pine, in double and triple rows, and well trimmed when young, would be pleasing additions to the landscape. Their bright and cheerful green, all the year, would compare favorably with the brilliant Cactus of the tropics. I have seen high and tight board fences erected along the banks of deep cuts to prevent snow from drifting in,—a belt of evergreens would be as effective. The great diversity of soil through which some roads pass, gives an opportunity for a variety of hedges, and avoids the monotony of a single kind. The undulating surfaces, curves and straight lines afford still further opportunities for graceful and pleasing arrangements of varieties, sizes and groups.

I am aware that live fences have fallen somewhat into disfavor. This arises partly from a bad selection of plants, inexperience in their management, and in growing them in gardens that are too small for them to look well or even thrive well without encroaching upon other things more valuable. But these objections would be of no weight with railroad companies, because their land is of no profit, and their hedges would be on a scale to warrant skilful and competent care. All companies are anxious to induce travellers to patronize their particular routes, and can they not offer the additional attraction of having everything about their roads present a neat and finished appearance? Certainly the well-to-do companies can afford something for gratifying the eye, but when an improvement claims both utility and beauty there is a two-fold reason for its consideration and adoption.

N. S. T.

Lawrence, Mass., Aug. 20, 1867.

Remarks.—By mentioning "curves" and "undulating surfaces," our correspondent possibly suggests one objection that will be urged against thick side hedges—the obstruction to the view of the track which they would interpose to the engineer. On some lines, considerable labor is annually expended for the removal of bushes, &c., which intercept such view, and serve as hiding places for stray ani-

mals that might suddenly dash upon the track in front of the train. But there is one thing of which abuttors have a right to complain. We allude to the growth on railroad banks of noxious weeds, such as the ox-eye daisy and Canada thistle. We have watched for some years the gradual increase of a plantation of the latter pest in the town of Somerville on the Boston and Lowell railroad, which we think should be abated.

For the New England Farmer.

FODDER CORN AND SUGAR BEETS.

We are indebted to the Secretary of the Irasburg, Vt., Farmers' Club, Z. E. Jameson, Esq., for the following report of the discussion by the members of this society of the relative profit of fodder corn and sugar beets. By sustaining these weekly meetings the farmers of Irasburg are an example which may be safely commended to every neighborhood in New England.

N. H. Stiles remarked that when a farmer steps aside from the regular course of farming, to raise a crop that will increase the amount of food for his cattle, he naturally inquires what is most profitable. Fodder corn is well adapted to summer feeding, and if properly cured would be a great addition to the winter stores; but sugar beets will probably yield a crop of equal or greater value by the acre, require no curing, and can be fed not only in the fall, but all through the winter and spring, when such succulent food proves very beneficial to all kinds of stock. One thousand or fifteen hundred bushels of beets, besides the tops, from an acre, must afford such an amount of food as to give a decided profit.

G. B. Brewster had had no experience with beets, but did not doubt their excellence for winter feed. He believed fodder corn good for cows at all times. He had now fed fodder corn one week, and his twenty-five cows have gained two pails (six or eight gallons) of milk a day, over the amount they gave before, and his cheese are an inch thicker than those made previously to feeding this corn. Without this fodder, the cows would have diminished in milk. Another thing: this food causes the cattle to keep in better condition. He mows a swath about seven feet wide and twenty long, morning and night,—feeding twice a day. As there is a larger increase in the size of his cheese than the extra quantity of milk would lead him to expect, he thinks the quality is improved in a greater ratio than the quantity. Mr. Brewster sowed two bushels of Western dent corn on about half an acre on which he had yarded his cows when milking, and the growth was enormous.

Wm. L. Locke, Jr., said he sowed five pecks of Western corn in drills, and he thought of curing it for winter fodder, as his cows are doing well in their pasture, and he had heard that one-fourth of an acre sowed with Western corn will produce enough to winter a cow.

S. Yaw observed that he had fed corn stalks to cattle with decided benefit.

Z. E. Jameson said that he sowed one and a half bushels of Western corn broadcast on about a third of an acre the 28th day of June, and exhibited a single stalk which weighed one and a fourth pound. He also showed a sugar beet, planted five weeks earlier, which weighed three and a half pounds. A beet occupies about a foot squre of ground, while several stalks of corn grow on a square foot. He had fed his cows just one week with corn stalks, and they have gained three pints each per day in milk, and a pint each in the quantity of cream saved during the week. He thinks it is more work to sow and hoe beets, but less work to harvest and store them safely, than fodder corn.

J. B. Fasset stated that the field of corn owned by Mr. Brewster suited him. He had never raised any himself. The idea of sowing in drills, and hoeing had heretofore rather deterred him, but if it can be sowed broadcast, like oats, and yield such a crop, it must be profitable.

Mr. Brewster feeds out about one square rod a day, and the gain in cheese is perhaps seven pounds, and the gain in condition of the cows must be about a dollar a day, which would be $160 per acre. It is ready for use just at the time when there is usually a scarcity of feed in the pastures. Next year he shall endeavor to have both fodder corn and roots.

Wm. L. Locke, Jr., said he had several times sent to B. K. Bliss, Springfield, Mass., for seed. This year he ordered one-quarter of a pound of Skirving purple rutabaga seed. He thought every seed was good, as there were plants enough for an acre. It was a job to hoe and thin them out. They are doing well now. The land where he planted them did not yield last year over 500 lbs. of hay per acre. He plowed it in the spring and put on the scrapings of the barn-yard, and harrowed it in; then marked the drills with a plow, and scattered in the drills the droppings of the hen roost, of which he had a wagon load. He then covered this manure with a little dirt, and dropped the seed in hills a foot apart.

For the New England Farmer.

FARMING.---THE TRUE POLICY.

Having seen and read numerous agricultural papers, I conclude that they are each and all but different versions of the same subject—Agriculture—being devoted mainly to the details of farming, under various conditions and circumstances. Still, notwithstanding the ben-

efits and satisfaction to be derived from reading agricultural papers, but a small proportion of farmers read them. The condition and circumstances of landholders are so diverse, with respect to nearness to good markets, pecuniary ability, and many other things too numerous to mention, that our farmers will for the future, as they have in times past, do what seemeth right in their own eyes. However desirable smooth and well cultivated fields, highly improved farms, large and abundant crops, choice breeds of horses, cattle, sheep, swine and fowls may be, they are not attainable by all. A considerable amount of land is encumbered by a mortgage, whose owners are cramped for means. Others push forward improvements vigorously, which add little or nothing to the annual income of the land, or to its real market value, while still others divide their time between cultivating their farms and attention to other pursuits.

It is well known that the immediate profits of farming are small, when compared with many other vocations, while it is not subject to the fluctuations, the ups and downs, incident to some other callings. The fact must be admitted that farmers, to meet their numerous family and ether expenses, must obtain considerable money, either by way of revenue from their farms, or some other source.

Political economy teaches that human beings are the subjects of expense during infancy, childhood and youth; and also during the decline of life. Hence, if during the period of health, strength and active labor, sufficient funds are not accumulated to equal the expense of support in infancy and old age, we do not "act well our part," but are a burden to others. A farmer who, while enjoying health and strength and reason, is not accumulating a surplus, is in fact indirectly wasting his estate. We are at all times liable to contingent expenses. Sickness, accidents, and misfortunes may occur at any moment; buildings are constantly going out of repair; implements are wearing out; horses and carriages, as well as all the fixtures of a farm establishment, are continually depreciating in value.

As the country grows older, and the population more dense, the various professions and trades will be compelled to submit to a more severe competition; diminished opportunities will exist for enterprise; poverty, want, and even pauperism, will increase, and farming will have to be conducted in a more skilful and scientific manner. The taxes on real estate must for years, if not for ages, be high, because it has to represent an undue proportion of the valuation of the country, since a vast amount of public and private securities pay no tax whatever. Buying cheap and selling high, however commendable, will avail but little if not conducted discreetly. Some of our largest insolvent debtors were the keenest at a trade.

One of the greatest obstacles to the development of the agricultural resources of the country, is a lack of means on the part of private individuals. This may be imputed to numerous causes, such as shiftlessness, prodigality, unstable habits, vice in its many forms, continuous small and trifling expenses, neglecting to sell surplus produce, accidents, losses and misfortunes beyond human control. Almost every man of mature or advanced age has earned or done business enough, if the avails of it were judiciously disposed of, to make a respectable fortune, or at least a competency. A few facts and figures may not be out of place here. The small sum of twenty cents per week, unnecessarily expended, or in any manner wasted, as for tobacco, for fifty years, say from the age of twenty to seventy, will, at six per cent. compound interest, amount to upwards of $2900. The sum of $25 per annum, or less than fifty cents per week, which is exceeded by many families in the two articles of ardent spirits and tobacco, exeeeds $7250. After having indulged in such needless expense for so long a period, what returns have we therefor? Neither the consciousness of having done right, nor security for the future, nor health, honor or respectability. My distinct meaning is, that however desirable highly improved and well stocked farms, judicious buying and selling, persistent industry, extreme economy, may be on the part of agriculturists,—either or all of these will not fulfil their expectations, if honor, or strict integrity, or a severe morality, are not rigidly adhered to.

A. Leavitt.

Chichester. N. H., 1867.

For the New England Farmer.

SWANS, GEESE, &c.

On passing the pond in the Public Garden, I have watched of late, with some anxiety, the white swan which has been sitting quietly in the rustic enclosure near the bridge, hoping to see for the first time the young cygnets. But this morning—August 5th—I noticed that she had abandoned the nest. In company with the obliging superintendent, the eggs, three in number, were examined, and all found to be rotten, with no visible formation in either; showing the great difficulty attending the propagation of the swan in this latitude.

The swan attains to a great age. I was assured by an old gamekeeper that one was kept upwards of one hundred and twenty-five years upon one of the old estates of England. Think of a bird that had been watched by five generations of men! There is a sort of "solitary grandeur" about the swan that belongs to no other bird; and their grace and beauty upon the water has been the theme of all time.

They lay but few eggs—from three to six—and propagate at intervals of from two to ten years, according to age, &c. It will be seen that God has other purposes for these birds than to administer to the physical wants of

man; and that, like the gorgeous birds of the tropics, and the wonderful plants that blossom but once in a century, they constitute in part the poetry of nature.

All birds of their species, such as geese, ducks, &c., in a state of nature, migrate to a northern latitude to propagate. It will be recollected that Dr. Kane found the islands and cliffs of Labrador and those of "Weary Man's Rest," literally swarming with them. Nature teaches them to provide against reptiles, birds and beasts of prey, and hot weather. Those that have watched them on their camping-grounds tells us that they begin to lay their eggs soon after their arrival at the North. They make their nest upon the ground, with no covering but the canopy above. When they begin to sit, the male bird takes his turn at incubation, while the female is off gathering food—thus exhibiting a wonderful instinct, by which the eggs are prevented from getting chilled, where snow and rain are often falling.

"Nature in all things," was Thoreau's motto; and acting upon a suggestion from him, I obtained a most valuable hint in the hatching of domestic fowls.

But, Mr. Editor, I began to write about water birds, and at some future time will give some suggestions concerning the rearing and marketing of domestic poultry. H.

Boston, Aug. 5, 1867.

Remarks.—In the Farmer, Sept. 1, 1866, we gave some account of the swans on the pond in the Public Garden, of Boston, with an illustration of a pair of these graceful birds. To those of our readers who were interested in that article, the foregoing will be acceptable.

TOP-DRESSING MEADOWS.

At a late discussion of the best way and time to top-dress meadows, by the Herkimer County, N. Y., Farmers' Club, the general opinion seemed to be that the best results were obtained by using well rotted dung, applied immediately after haying, using a brush to brush it down fine, so that it may be distributed evenly and reach all the plants. If a sprinkling of plaster be sown immediately upon this top-dressing, it fixes the ammonia and prevents loss. The manure also served to protect the roots of grass from the rays of the sun, which often acted injuriously upon meadows after the grass was cut. Judge Owen made the following statement:—

Some years ago he owned twelve acres of Mohawk flats; it had been severely cropped, and was poor—perhaps the poorest piece of land on the Mohawk. He purchased four hundred loads of stable manure, and applied it in a fresh or raw state, and with but little improvement to the soil or crops. Then he looked about for another course of treatment, and purchased a thousand yards of well rotted dung. It was all in one pile, and had been accumulating for five years. It was at a barn that stood six feet above the surface of the ground, and the manure had been thrown out until the accumulation had reached the sills of the building. Straw had from time to time been thrown upon the excrement of stock, and this had prevent evaporation, making a solid mass of rich manure. This material was carted upon the land, and we saw the effect—it turned the field into a garden. This experience convinced him of the value of rotted over unrotted manures.

CHARCOAL FOR WHEAT.

It is to be hoped that those who are in the habit of cultivating wheat—either spring or winter—will not neglect to give this article a fair, patient, and impartial trial, and note carefully the result.

Charcoal, it is well known, possesses, in a remarkable degree, the power of attracting and fixing ammonia, very considerable quantities of which are always present in rain water, as well as in the snow which falls during winter. It also condenses other nutritive gases which, in their action, are highly beneficial to wheat and other crops. Twenty bushels of finely pulverized charcoal would, in all probability, be an ample allowance for an acre of wheat—that is, so far as the absorption and fixing of these aereform substances are involved; although it would not, of course, of itself, unassisted by putrescent manure, immediately transform poor soil into rich, and cause it to produce an affluent, or even medium crop of grain.

We would by no means advocate the institution of expensive experiments, yet we are sanguine that the time has already arrived when the value of this substance for manurial purposes ought to be thoroughly and accurately ascertained.

As it possesses the power of absorbing ninety times its weight of ammonia—alternately attracting and giving out this most efficient agent of vegetable life—and as this economy is continued uninterruptedly throughout the vegetable year, there can be no question, we think, that its application, in certain given quantities, would, in most instances, be highly economical, and of decided benefit to

the crop. Such as may not feel disposed to enter largely into experiments of this description, from an apprehension of loss or failure, may try it on a small scale,—say on a quarter or an eighth of an acre.

It may not be uninteresting to the reader to see the result, in this connection, of certain organic analyses of wheat made in the laboratory of M. Boussingault. The wheat upon which he experimented, was previously dried at 230 degrees *in vacuo*, and was found to contain,—

Carbon,	46.1
Oxygen,	43.4
Hydrogen,	5.8
Nitrogen,	2.3
Ash,	2.4
Total,	100.0

In charcoal we have a fair representative of carbon, while water is the representative of both oxygen and hydrogen, the two next important elements in wheat.

"Azote, or nitrogen, in the form of ammonia," says a distinguished writer on geoponical science, "or nitric acid, (*aqua fortis*,) and the incombustible part of plants are the elements which least abound in soils, and should, therefore, be husbanded with the greatest care."

If our farmers would give a little more attention to applying what is termed concentrated manures in the cultivation of their lands, we should soon perceive the beneficial results of such a practice, not only in its immediate influence upon the crops, but in its permanent action on the soil. But the fertilizers must be genuine.

Charcoal, for instance, is a substance nearly indestructible. When buried in the earth—no matter what may be the physical character or condition of the latter—it rarely undergoes any perceptible change or alteration for a period of many years. Old coal hearths which have been cropt for generations, are still found to retain their opaque color, and to contain pieces of charcoal, the fractures of which are to all appearance as perfect as when drawn from the kiln.

Charring wood is well known to increase greatly its durability, if charred *after* the wood is seasoned; if before the wood is seasoned, the sap cannot readily escape and the centre of the wood perishes rapidly. If the timber is dry, charring greatly increases its capacity of resisting atmospheric action, whether above or under ground.

Seasoned posts, which have been prepared by charring that portion of them which is exposed to the action of the soil, before "setting," last much longer than the same kind not charred. So that the farmer who applies an adequate dressing of charcoal to his wheat crop this season, may expect to derive important advantages from it as long as he lives. Charcoal is also valuable in the cultivation of fruits, particularly the plum and peach.

Large quantities of charcoal dust may be obtained from various portions of New England, where coal is made for market, or the coal itself may be ground at moderate cost.

FARMERS' CLUBS.

At the *Farmers' Institute*, N. Y., a few days since, Mr. Daniel F. Rogers, of Ill., said,—"It seems to be a question what subjects are proper for discussion at the Farmers' Club meetings. In my opinion, there is no subject of any considerable importance to mankind, a liberal and intelligent discussion of which is not within the proper limits of any farmers' club. Many farmers seem to think that farmers' talk should be only of farm stock—pigs, poultry, plowing and manure.

"There is nothing in the occupation of a farmer that makes it necessary that he should grovel in the dirt; nothing in the occupation of a farmer to *prevent his being an educated man*. Intelligence, with them, should be as free and glowing as the sunshine and air in which we live."

This sentiment elicited warm applause, as it should. The more *practical* knowledge the farmer has—knowledge that can be applied to his business in all its bearings, and that will embrace nearly all the sciences and arts—the more he will enjoy his profession, and the more power he will possess to make that profession profitable in a money point of view, as well as agreeable to his tastes.

It is entirely an error, from beginning to end, to say that the farmer need not be an educated person. No business on earth, it seems to us, needs it more, because *his* business is the source and support of all other business.

—In the Mississippi swamps herds grass has been found which was five feet three inches high, with heads eight inches long. The seed was from forages scattered during the war.

GIFFORD MORGAN COLT.

We present, herewith, the above engraving of the four-year-old Gifford Morgan colt, "Vermont," which received the first premium in its class at the State Fair in Brattleboro', Vt., in September, 1854. He was then owned by J. H. Peters & Co., Bradford, and was claimed to be the most thorough-bred Morgan then living; being a descendant of the old Gifford and Green Mountain Morgans. The distinguishing characteristics of these horses are neatness and compactness of form, hardiness of constitution, soundness of wind and limb, strong digestive organs, enabling them to live on little food, good action, and a high degree of intelligence and spirit.

WOOL GROWING AT THE WEST.

The article entitled "Dark Side of Wool Growing," which we copied a few weeks since from the *Prairie Farmer*, has drawn out several replies from other correspondents of that paper. One farmer in Iowa, whose experience agrees with the writer "A. R. H.," so far as the Merinos are concerned, changed his flock for Cotswolds two years ago, and is much pleased, both as to the production of mutton and wool, with his experiment thus far.

A farmer in Du Page County, Illinois, who still adheres to the "little, nasty, greasy, black Spanish sheep," figures up a very satisfactory income from his flock during the past five years, and says he finds no trouble in selling sheep or wool, and does not know of a man in his section that will be likely to give his sheep away or even sell them at much of a reduction from last year's prices.

And in the last *Prairie Farmer* we have a lengthy response from "Wool Grower" himself, whose "cyphering" and teaching was so severely criticised by the writer of the "Dark Side of Wool Growing." We have not space to print in full "Wool Grower's" replies to the complaints of this writer about his failures in realizing his expectations as to the proportion of lambs raised; to the weight of fleeces; to the number of sheep a farm will carry; to the unfavorable effect of sheep upon pastures; to the price of wool; to the tendency of the flock to degenerate into "culls," &c. But we must copy his reply to the remark by "A. R. H.," "I have got sheep to sell, and so have nine-tenths of the farmers of Illinois:"—

So have I got sheep to sell; I sell my culls every fall and usually a lot of wethers every year. If he means that nine-tenths of the sheep owners in the State wish to sell out of sheep, I beg leave to say that I think him very badly mistaken. No man could buy at any very low price the crop of lambs, or the ewe-flock of any of our long-time flock masters, the class he distinguishes by the epithets "enthusiastic" and "fascinated." I can tell you what the enthusiasm and fascination consist in; they consist in good, large and well-improved farms, growing richer every day, having been "sheeped" until the soil is better than the day the prairie plow rolled the sod over. They consist in good, well-bred flocks of sheep; in good teams, and plenty of farming tools and machinery; in barns, sheds and other outbuildings; in large, comfortably,—and in some cases—luxuriously furnished houses; in books, newspapers and educated children; and last, but not often, in a good big credit account in bank. Who would not be enthusiastic and fascinated on those terms?

Our Shelby county friend takes his skite at our tariff. He shows very plainly by his own language that he knows very well *why* it is not helping the price of wool more at the present time. He knows, in his secret thoughts, that it *is* literally true, that the country has been rammed full of woolen goods. Let him ask any manufacturer here at home, in any of our larger towns, how stands the case with him.

One of our largest manufacturers in Central Illinois said at shearing-time that for the first time in a factory-business of twenty years, he could not pay cash for any wool, but must exchange goods for what he bought. I have known him well for about sixteen years, and I am satisfied that necessity, not policy, brought him to that decision. Added to it, perhaps, was an unwillingness to make the wool-grower as petty offers for his wool, in cash, as his necessities would compel. He said it was the first time he had ever been able to make as many goods as he could sell at home, but was then scattering them around the central part of the State to try to work them off. Of course it was in a measure his own fault, or his misfortune, whichever you please, as he, like all manufacturers both Eastern and Western, had doubled his machinery during the last two years of the war. During the same period, importers imported as if there was not a factory in the land. In addition to the large amount of woolens, as affecting the price of wool, we may put down the fact that we wool-growers are now crowding all the large markets of the country with wool, under instructions to sell it "immediately, if not sooner."

A. R. H. says the tariff has not helped the wool-grower the first continental; rather he puts the language into the mouths of free trade Congressmen. I beg to differ with him. I feel that had it not been for the moral force exerted by the mere fact of having such a tariff, we should have seen a panic in wool matters equal to that of 1861, when the first Bull Run battle scared manufacturers so badly that they bought much Western wool at 28 cents per pound. He need not borrow any trouble about that tariff being knocked in the head next winter—not if wool-growers can exert any influence. I think the wool-growers of the country have worked too hard for two or three years past to get this tariff, not to, if necessary, work still harder to keep it.

Before I leave this matter of the tariff, I would like to ask "A. R. H." (inasmuch as he has put some very pointed questions to me) whether he ever gave a dollar or a day's time to help secure the tariff? I discover, that, in a general way, the men who exhibit the most querulousness with regard to the tariff—the men who think it won't do any good—that the manufacturers have got the big end—that they even framed our end of the tariff, &c. &c., are the men who don't come down with "the stamps."

Having reviewed "A. R. H.'s" chapter of disappointments, I would like to address myself for a short time to the whole class of sick, supremely disgusted, four-year-old sheep men—a sort of "application," as the preachers would call it—of the preceding discourse.

My Very Dear Friends:—You all claim to be very sick of sheep. I have no doubt you are, and most possibly with reason; but the trouble is in yourselves and not in the business of wool-growing. Some of you claim to be converts of mine. I have sown much sheep-seed in the last seven or eight years, and I see that in *your* cases it has fallen in stony ground; the stalk, after four year's weakly growth, has withered away, *because* it had not much root. I have always said that not *all* men were called, or fit, to handle sheep; that the business of sheep-raising required plenty of watchfulness, every-day care and hard work. Some of you who took up the shepherd's crook, are Reubens,—unstable as water, ye shall not excel. You are the class which make frequent changes of business,—every change involving a loss. It always so happens that when it rains *your* dishes are not right side up. You could not see any money in sheep until old culls—mere dead sheep—and hard-driven Michigan sheep, sold at from four to six dollars each. I have said to you that you might come out right, even in this case, if you would hang on long enough, *and well enough*, to grow a young flock out of them. But the *hang-on* isn't in you, and as you went into sheep just when they were highest, so you must needs supplement your foolishness by going out of them, when, perhaps, they are lowest. The sicker you grow of the stock, the less care you take of your flock—thus hastening your descent down the broad road that leads to cholera hogs and tew-cent corn. As a heathen poet has expressed it,

"Facile descensus Averni."

I know the present situation looks rough—that wool should be only thirty-five to forty cents per pound, with gold at 140, and with taxes and expenses at fever heat, but, my dear friends, are you going to gain any thing by giving away your sheep? I grant you this is the hardest season wool-growers ever saw, but I say to you that in sixteen years I never saw two hard years for wool-growers come together.

Again, my friends, sick as you now are of sheep, you are very much inclined to view other specialties and pursuits of farming as if surrounded and enveloped with a golden atmosphere. Look at wool-growing; won't the profits of it average, or more than average, with those of other kinds of farming for the past ten, or fifteen, or thirty years? Have you come to feel, in your supreme disgust, that there are no drawbacks to other kinds of agriculture? Have you forgotten that here in Central Illinois men sowed whole counties, almost, in quarter-sections fields of winter wheat from '57 to '62 inclusive, and did not harvest their seed through all those years? Have you forgotten those three years of ten to fifteen cent corn? Have you not known a number of years in the past sixteen when men purchased stock hogs in the fall, fed their crop of corn to them, and sold the pork for less than they gave for the hogs? Have you not known men to feed cattle with the same results?

Have you not known men's entire herds of hogs to die with the cholera, not for one year only, but for two or three in succession? Men and brethren! if you have not seen all these things take place, I have, in the sixteen years I have sojourned in this glorious prairie State.

In conclusion, dear friends, allow me to hope that you will gird on the armor anew, stiffen up the upper lip, pull off the coat and roll up the sleeves, feed well, breed well, take good care of your sheep, so that next year—if our tariff holds its anchor—we all may find ourselves Western Argonauts, safe in the port of Colchis and taking off the golden fleece!

Wool Grower.

EXTRACTS AND REPLIES.

WORMS IN HORSES.

Can any of the readers of the Farmer inform me of an effectual method of destroying worms in horses? Some recommend arsenic, but is this not too deadly for any living creature to swallow?

West Mansfield, Mass., 1867. A Reader.

Remarks.—This trouble, to which horses are quite often subjected, is frequently a serious one, and spoils the usefulness of the animal. It also causes him great annoyance, makes him weak, and gives him a shabby and discreditable appearance. In a majority of cases these troubles are occasioned by the parsimony, or at least by the injudicious treatment of the owner.

In the first place, the animal probably *begins* life with a hereditary taint, and this is aggravated by neglect, abuse, overworking, and a scanty supply of miserable fodder.

When the worms are of the tænia, or tape-worm kind, competent veterinary skill should at once be called in, and active measures pursued, until the terrible plague is destroyed. It will be only additional suffering to the poor animal for inexperienced persons to practice upon it.

When the worms are the small, white, tapering kind, which are often voided with the excrements, and are called *ascarides*, they may be dealt with by most persons owning horses, and usually with success, by the employment of remedies that are simple and always at hand. The first of these should be moderate labor and generous feeding, and, instead of dry hay all the time, feed that is cut and moistened, or a mash of bran, ground oats, barley, or corn meal, with cut hay.

The presence of these little tormentors may be known by the appearance and actions of the animal: the breath is sometimes feted; the hair becomes dull and frowzy; the animal sometimes rubs its nose against any object near it, or strains it upwards, and the eyes are unnaturally bright. The appetite, too, instead of failing, becomes more than good.

On examination of the parts around the anus, little white strips of tenacious mucus may be seen, which are occasioned by the worm, when voided, not falling directly to the ground with the excrement, but adhering to the skin and sliding along down, and leaving this whitish track where it passed.

When these evidences are apparent, a gill of sifted *wood-ashes*, mixed with the cut feed, and administered every other day for a week, will usually effect a cure. If it fails, give two drachms of *tartarized antimony*, in a mash, every morning, until the worms are expelled.

But it should always be remembered that the health and efficiency of the horse depends upon his being moderately worked and generously and regularly fed.

OX KILLED BY EATING WILTED CHERRY LEAVES.

I would like to know through the Farmer, if any one can tell, what was the matter with an ox which one of my neighbors lost last week. The symptoms of illness were first noticed in his eyes, which discharged a watery substance, as they do when they have been hurt. The next day they turned a bluish white, and the ox was entirely blind, and appeared to be in great pain, and did not eat. His mouth began to swell and corrupt, with an offensive smell. He grew worse for seven days, and then died. He was a nice, seven years old, fat ox, and had never worked hard. His jaws were set the third day after he was taken. The day before he was taken he ate some black cherry sprouts that had been mowed for hay. Some people think that the cause of his sickness and death.

Gilsum, N. H., Aug. 19, 1867. N. O. H.

Remarks.—In the Monthly Farmer for October, 1852, we published the statement of a farmer in Plymouth County, Mass., that he had known three cows killed in one day by eating the wilted leaves of a wild cherry tree that had been blown down in the pasture; also an account of the injurious effect on the milk of cows from browsing the green leaves of the cherry, which overhung the wall of the pasture.

In the August number, 1855, there is a statement of the death of a fine calf in Bolton, Mass., that was tethered under a cherry tree, and remained healthy and thrifty until, in picking the fruit, some of the twigs were broken off and fell to the ground. After which the calf sickened, became blind, and died, although two doses of lamp oil and several injections were administered.

In a late number of the Boston *Weekly Advertiser*, Mr. H. C. Merriam gave the particulars of the poisoning of a premium steer by eating a few wilted leaves attached to cherry trees or logs brought into his yard for firewood, and said he had known of several deaths from the same cause. He thought cherry trees on the farm should be as carefully watched and cautiously managed as arsenic in the house. Cattle eat them very greedily if they can get at them.

Cold water administered externally, or in the form of a bath, is recommended as a cure for prussic acid, which poison the cherry leaves are supposed to contain. When an animal has been poisoned in this way, cold water should be dashed over its body by bucketfuls, from the pump or well.

STIFLED HORSES.

Please inform me, if you can, what will cure a horse that is stifled, and oblige, L. J. DAY.

Bristol, Vt., Aug. 23, 1867.

REMARKS.—The stifle joint in the horse answers to the knee in man, and the "patella" to the knee-pan. This bone in the horse, as in man, is liable to be misplaced, in which case, it must be "reduced" or set. We presume that with Mr. Day's horse the trouble is a mere sprain, to which this joint is liable from violent exertion or sudden slip, or from injury from the kick of another horse, or from coming in contact with some hard substance. In these cases, says Mr. Youatt, there will generally be sufficient heat, tenderness and swelling on the part to point out the seat of injury. The animal will also step short on the affected limb, being unable to extend it. The treatment should consist in resting the animal, applying warm fomentations to the part, and administering a dose of physic. If the inflammation runs very high, it may be further relieved by bleeding from the femoral vein,—the principal artery of the thigh. When the acute symptoms have subsided, a blister may be applied to the part. In relation to fomentations the same writer observes that the effect depends on the *warmth* of the water instead of the wormwood, vinegar, tobacco, urine, juniper berries, camomile flowers, &c., which may be steeped or added to it. Fomentations are therefore seldom continued long enough. They should be applied by means of flannel several times folded, and wrung dry, with the heat as great as the hands will bear, and when removed the part should not be left wet. Mr. Allen says that half an hour should be devoted to the operation,—the water being kept warm by the addition occasionally of that boiling hot.

ANOTHER LADY WHEAT GROWER.

I was pleased to see an article on Wheat Raising in last week's FARMER by a sister farmer; but was sorry she did not tell how much she raised. I raised six bushels this year; both the grain and straw very fine. Another year I shall raise more. Will you please ask, through your paper, if any one in this vicinity has used the cow milking machine; if so, with what success? I have gained much information by reading the FARMER, and found many of its receipts very useful. M. A. C.

Dorchester, Mass., Aug. 23, 1867.

REMARKS.—In the early settlement of New England our farmers raised wheat in abundance. And it always affords us pleasure to publish statements which show that our soil has not "forgot its cunning" in this respect. But when ladies send us the details of their successes in cultivating this staple, we accept it as evidence of another fact,—one more encouraging perhaps than the demonstration of the possibility of growing wheat on our old farms,—the fact of a growing interest in the great subject of agriculture on the part of Miss and Mrs. Young America. Our countrymen who travel in the rural districts of England, especially those in search of information on agricultural subjects, often speak of the interest manifested by the ladies in everything pertaining to the farm; of the intelligent manner in which they converse upon all agricultural subjects, and of the readiness and familiar manner with which they exhibit to strangers, in the absence of the proprietor himself, everything of interest about the estate, whether pertaining to stock, the dairy, field crops, drainage, or general farm management.

When factory and shop life for girls, and village and city life for mothers are better understood, we are confident that the farm home and its interests will be better appreciated by females. We hope, therefore, that the wheat raising communications of these two Massachusetts ladies is evidence of a "change in the fashions" that is much needed, and that other women will adopt the same *style* of influence and the same *cut* of practice.

Will some correspondent reply to the inquiry about the cow-milker?

AN OLD SUBSCRIBER AND A QUEER FELLOW.

Please find $2.50 to pay for the FARMER another year.

There cannot be a pole bean found in '67, but what climbs the pole against the sun. This is the town where the white huckleberries grow, and where the town fails to raise money enough to keep the public school six months, as the law requires.

Rain and rotten potatoes plenty. I was one of the first subscribers for the *Saturday Rambler*, 22 years ago. HORACE LAWTON.

Mansfield, Mass., Aug., 1867.

REMARKS.—Twenty-two years ago, and his cash has come as regularly as the months themselves. If all his townsmen had done the same thing, there cannot be a doubt but the public school would have been continued twelve months in the year, with a suitable vacation only for Thanksgiving, and for picking the *white* huckleberries! But the pole beans—the incorrigible beans, that insist upon running *against* the sun, instead of an easy climb along with it. Bless us. What a town *Mans*-field must be. We wish all its people were like our correspondent in one respect, at least, then Mansfield would blossom as the rose, the huckleberries be sweet, if not black, and the schoolmaster and schoolmistress find ample opportunity for labor all the year. We must go and see Mansfield.

SPECIMENS OF WHEAT.

Enclosed is a specimen of spring wheat, raised by us the present season. The specimen is some that shelled out while being drawn from the field. We think it is a desirable quality, as it can be grown in this valley, where wheat raising has become nearly obsolete. Notwithstanding the heavy rain through Friday and Saturday, and the large growth of straw, the wheat was cut with a cradle, on Monday, without any inconvenience from being lodged. R. BURNHAM & SON.

South Strafford, Vt., Aug. 26, 1867.

REMARKS.—Large, plump and handsome berries. We have also received a specimen of wheat grown by Mr. S. Pratt, of Chelsea, Mass., within sight of

the steeple of the "Boston Meeting-house;" but as we have the promise of a statement of the crop, which is a good one, after threshing, we will now merely remind the wheat-raisers in other parts of New England that they may look out for a "grist" from the tide-water farmers of the old Bay State.

TURKEY DISEASE.

Can any one tell me, through the Farmer, what it is that causes young turkeys, from two to three months old, to lose their appetite, droop about for a day or two, and then die. I have a flock of turkeys that went along well until two months old, but since that they die off every few days; can any one inform me what is the cause, and if there is any remedy, what it is? G. E. H.

Shrewsbury, Mass., Aug. 26, 1867.

Remarks.—In connection with the foregoing inquiry, we take much pleasure in publishing the following interesting communication from a correspondent in Illinois. Although the flesh of fowls is heir to a great variety of ills, it is possible that the prescription of Mr. Whatmore for chicken disease, may prove efficacious for the sick turkeys.

CHICKEN DISEASE.

Having lost several hundred chickens by the complaint which for two years has been making sad inroads amongst the poultry in this part of the country, I have studied the disease by opening a great many. I have examined the throat, craw, liver, gall, heart and gizzard, and invariably found them healthy, and of good color; but the guts were always cramped and contracted, and hard, like a piece of English whip-cord, or the fourth string of a fiddle. I therefore conclude that the disease is a kind of fever. After trying a great many remedies, I made a *strong* decoction of white oak and hazlenut leaves, boiling them together in a large iron pot. When cold, this is put in pans for the chickens to drink, adding to it a little asafœtida and black pepper, prepared by putting ten cents' worth of asafœtida into a two-quart bottle, and *filling* up the bottle with water in which a good supply of ground black pepper has been boiled. After putting a little of this into each pan, it should be well stirred with a stick. Whenever a chicken, young or old, sickens, I pour down its throat about a teaspoonful of the asafœtida, one or two days. The chickens wont drink the decoction if they can get other water, which must be kept from them. Since I have used the decoction my dead chickens wont average three a week; while before I buried eight and ten in one day. Any person wishing further information can have it by sending a ready directed envelope, stamped, with paper, for a reply. Address

John Whatmore.

Bridgnorth Farm, Dunleith, Ill., Aug. 26, 1867.

A CLAY SOIL BENEFITED BY SAND.

I have just read in the Farmer, an account of the results of applying clay to sandy soil. In the fall of 1865, I had occasion to make some ditches in a low, sandy soil, on the bank of a river, which overflows every spring. I spread the sand from these ditches on a white clay meadow, ten loads to the acre. It unfortunately froze up in piles, so that I could not spread it until spring. The grass started early on the edges of the heaps, but for the year 1866 I did not perceive much benefit. This year, however, the grass started early, grew luxuriantly, and produced twice as much as adjoining land, where it was not applied. After it was cut, and until the present time, there is a large increase of the second crop. The land contains a large percentage of mica, which is known to be rich in potash. H. A. Sheldon.

Middlebury, Vt., Aug. 22, 1867.

SUPERPHOSPHATE ON NEW AND OLD LAND.

Why does plaster and superphosphate show more marked effects on what we term broken-up ground than on old ground, or ground that has been cropped one year? If superphosphate is a manure, why do we not realize the same benefit on both? Who can tell? W. B. Weeks.

Gilford, N. H., Aug. 26, 1867.

Remarks.—Is it a fact that superphosphate *does* show "more marked effects" on new land than on old? Such has not been our experience. Would not the same result be noticed on such lands from the use of common manure? The new ground has elements of production of which the old has been partially exhausted, and it is probably the influence of those elements that gives the crops on the new ground their better appearance.

Superphosphate is certainly a manure. Anything is a manure that causes plants to grow, which makes land productive, although it may do it indirectly, by stimulating other substances into action. Plowing, hoeing, and stirring the land in any way, is manuring, in one sense. To cultivate by manual labor is to manure, because it develops by culture.

APPLICATION OF MANURE—WINTER WHEAT—SPRING WHEAT.

I take a great interest in reading the Farmer, and particularly the column of "*Extracts and Replies.*" I wish to ask you or some of your correspondents, which is the best time to get out manure?—to get it out green in the spring and plow or harrow it in, or do as I have been in the habit of doing for a few years past, which is as follows:—

Let the winter's stock remain in the cellar until I dig my potatoes, then draw out and plow in as soon as convenient. The next spring plow again and plant corn. Manure in the hole with hen manure and night soil, well mixed with muck or loam. I bed my cattle and horses well with pasture brakes, then tie the cows up all summer and bed with muck. Hogs run on the manure and keep it down. By the time I draw it out it gets well rotted and smells as though it would make a good crop of corn, which I hardly ever fail of getting.

Should I be likely to get a good crop of winter wheat by plowing in a good second crop of clover now, and sowing after a few days,—the land gave spring wheat last year,—or had I better grow grass another year?

After reading your article on green manuring, a few weeks since, I was led to make this inquiry. We get very good wheat by plowing in the fall and harrowing, then sow as soon as the frost is out in the spring without plowing. By answering the above questions you will oblige a young farmer and perhaps many others. S. S.

Laconia N. H., Aug. 26, 1867.

Remarks.—The practice of applying manure which you describe is a good one. In the first place, if the manure is kept in a compact form in the cellar, and is covered with peat or loam, it suffers no special loss, and in that condition is

thoroughly ripened, and would be fit for use in the spring on any crop.

But if the summer manure was plowed under in the fall, in its crude state, it would pass through the process of fermentation and decomposition *in the soil*, where it would have an excellent influence in lightening and enriching it. There is no other way, we think, in which manure can be so judiciously applied as in this; where there is so little loss, and where the manure is so soon removed out of the way to the places where it is to be used. We should adopt this practice as a rule, wherever manure is to be used on hoed crops. Apply *crude* manure in November to the garden, for instance, plowing it in just deep enough to cover it with two or three inches of the soil, and on plowing the same piece in the spring, the soil will be found almost black—if the dressing was liberal—and so light and porous that the tenderest roots of plants may roam in it in search of food with the greatest ease. Such a soil will remain light for a long time, will resist a drought bravely, and will always be easy to work as long as it remains in this condition.

Your plan is liable to no serious objection, yet we should prefer to have the winter's stock of manure in the ground, and ferment there, than to have it remain in the cellar through the summer.

Your practice of the use of hen manure and of bedding the stock, is excellent.

With regard to the wheat, we are inclined to think that it would be better to allow the land to lay in grass another year, than to follow a wheat crop with wheat.

Your practice and your questions, both indicate that you are determined to be a *progressive farmer*, and one who means to make the soil remunerate him abundantly for all the skill and labor bestowed upon it. We wish you great success in the noble calling, and shall find pleasure in being useful to you in your efforts.

WEB-WORMS, OR FALL CATERPILLARS.

Can you inform me what sort of a pest is at work on the apple trees? It is about an inch long, and spins a web not unlike a spider's. The leaves within the web look as if they had been scorched. The *critter* looks something like the tent caterpillar, the color being similar, but it is not half as large. A. W. GREELEY.

Nashua, N. H., Aug. 14, 1867.

REMARKS.—This is undoubtedly the insect that is known in this section as the Fall Web-worm, or Fall Caterpillar. They are very troublesome upon shrubs and trees during the summer and fall. They are named from their habit of feeding together in large numbers, and spinning a web that envelops the leaves and the whole branch, as they devour the foliage. The NEW ENGLAND FARMER has the honor of publishing the first description of this species, Aug. 22, 1828, written by the late Prof. T. W. Harris. He then said it belongs to the genus *Arctia*, and the species had not, to his knowledge, been described. From its habit of *weaving* he called it *Hyphantria* (a Greek name for weaver) *textor*. He says, the eggs, from two to three hundred in number, are deposited on the under side of a leaf, near the end of a twig, which hatch at different times in July and August. The young caterpillars begin to provide a shelter for themselves, by covering the upper side of the leaf with a web, which is the result of the united labors of the whole brood. They feed in company beneath this web, devouring only the upper skin and pulpy portion of the leaf, leaving the veins and lower skin of the leaf untouched. As they increase in size they enlarge their web, carrying it over the next lower leaves, all the upper and pulpy parts of which are eaten in the same way, and thus they continue to work downwards, till finally the web covers a large portion of the branch, with its dry, brown and filmy foliage, reduced to this unseemly condition by these little spoilers. These caterpillars, when fully grown, measure rather more than one inch in length; their bodies are slender, and very thinly clothed with hairs of a greyish color, intermingled with a few which are black. The general color of the body is greenish yellow, dotted with black; there is a broad blackish stripe along the top of the back, and a bright yellow stripe on each side. Towards the end of August and during the month of September, they leave the trees, disperse and wander about, eating such plants as happen to lie in their course, till they have found suitable places of shelter and concealment, where they make their thin and almost transparent cocoons, composed of a slight web of silk, intermingled with a few hairs. They remain in the cocoons, in the chrysalis state, through the winter, and are transformed to moths in the months of June and July. These moths are white, and without spots; the fore thighs are tawny yellow, and the feet blackish. Their wings expand from one inch and a quarter to one inch and three-eighths. As soon as the webs begin to appear, the leaves should be stripped from the branches, with all the caterpillars, or the branches cut off entirely, and the worms crushed under foot.

TWO YEAR OLD SQUASHES.

I noticed in a late number of the FARMER, that an Essex, Vt., correspondent has a pumpkin that was grown in 1866. I have two winter squashes that I raised in 1865, that are as sound as when taken from the vine. The largest one weighed, when picked, 37½ lbs. Its present weight is about 35 lbs. CAPT. JOEL PARKER.

Northfield, Vt., Aug., 1867.

FAST COLT.

The same dam that has had three remarkable colts during the three last years, dropped another stud colt June 12, 1867, which measured 37½ inches in height, and as I could lift him easily, I judge he then weighed about 150 lbs. August 12, he weighed 356 lbs., and measured 46¼ inches; Aug. 19, 374 lbs; Aug. 26, 396 lbs., and measured 48 in., or 12 hands high. From this it seems he has gained an average of about 3 lbs. 4 oz. in weight, and one-eighth of an inch in height *per day!!* He is withal

as "handsome as a picture," and as full of "thunder and lightning" as old "Bucephalus." If any of your readers have a *faster* colt, I will make him my best *bow* if he will meet me at the Vermont State Fair. Randolph Colt, Jr.

Randolph, Vt., Aug. 28, 1867.

AGRICULTURAL ITEMS.

—The California Agricultural College is to be located at Oakland, Alameda county.

—A machine, propelled by horse power like a reaper, has been invented in Iowa to gather and crush the potato bugs.

—The Chicago cattle yards have 150 acres floored with plank. There are pens for 75,000 cattle, 20,000 sheep, and 20,000 hogs.

—He is the most reasonable worker who judiciously divides the responsibilities and duties of life between brain and muscle.

—With the mercury at 90 deg., a farmer in Fulton, Wis., recently cut thirty-two acres of wheat in one day with a Clow reaper and one pair of horses.

—Canadian farmers who have settled in Iowa, say that they can raise combing wool as cheap there as in Canada.

—Rancid or strong lard can be much improved by heating and frying in it some sliced potatoes, and then keeping it in a cool place.

—J. Harris, Rochester, N. Y., thinks a bushel of wheat cannot be grown in that vicinity, with due regard to the interests of the land owner and the laborer, for less than $1.50.

—In 1857 the duty on pig lead was reduced from 20 to 15 per cent., and under the present tariff it is two cents a pound. The production of the Galena mines has largely decreased of late years.

The *Rural New Yorker* speaks well of the Diehl wheat. It has seen some heads with over eighty kernels in each. Two New York farmers last year harvested 300 bushels from ten acres, and this year's crop was more promising.

—The editor of the Amherst, N. H., *Farmers' Cabinet* has an apple tree upon which are now growing several bushels of Porter apples, several winter squashes, and a printer's dish of butter beans!

—Mowing machines are not very generally used in England, and the chief obstacle to their introduction has been the landlord's dread of the destruction of game, as the machines show no mercy to sitting pheasants and partridges.

—Forty acres of bog land in the county of Mayo, the north-west extremity of Ireland, undermined by heavy rains after long continued drought, lately disappeared in the depths of the Atlantic. Ten acres of standing crops and several houses were destroyed.

—The practice of sowing rye early in autumn among corn, for fall and spring feed, and for plowing under, is adopted to a considerable extent by the farmers of the West. The corn is benefited by the stirring of the soil necessary to cover the rye.

In England the dog tax yields a good sum. Up to the end of June last, licenses were taken out for 695,624 dogs, against 394,837 on which the tax was paid in the year ending March, 1866. In Scotland the number of dogs taxed has increased from 36,365, to 80,000.

—A. P. Scott, of Newton, Ind., gathered a bundle of grass in the field, carried it forty rods and laid it in the wagon for the horse to eat. In a short time there was trouble with the horse, and looking up the matter, a large rattlesnake was found in the hay.

—To "break up" a sitting hen, I. A. Collins, of Cardington, Ohio, ties her with a string four or five feet in length to a stake driven in the ground, close to the path where he is in the habit of passing frequently, and scares her as often as he goes that way. One day effects a cure.

—A correspondent of the Canadian *Farmer* says that in the county of Norfolk, Can., turnip culture is declining. Maize is raised extensively; it is considered less expensive and more certain than turnips, carrots or mangels and is used extensively in feeding.

—A man near Ann Arbor, Mich., recently left a fine horse fastened to a small tree on the edge of a ditch containing a little water, and on returning he found that the halter had slipped down, drawing the horse's nostrils into the water, and holding him there until he was drowned.

—The great Canada cheese, which was exhibited at the New York State Fair, at Saratoga, weighing 7000 lbs., has recently been tested, and found to be uniform in color and excellent in texture, with a sharp flavor, resembling the "brandy-cheese" so popular with many.

—An Illinois farmer, in a note to the New York Farmers' Club, says he has never known a case of the dreaded milk sickness, where the animals had plenty of pure water. He also says that since he hauled sand and gravel on his walks and paths the chicken cholera has entirely disappeared from his place.

—The cost of keeping sheep in the South is very small. A correspondent of the *Agricultural Department*, from Union Co., S. C., says it cost him but 28½ cents per head to winter his flock of 22. They were fed about two months, receiving shelter not more than two weeks. He estimates his profits from the flock, at $40.

—The Ohio *Farmer* says that corns in horses' feet are the cause, in most cases, of sprung knees. In order to relieve the heels sore with corns, the animal throws his weight mainly on the toe, thus relaxing the tendons and suspensory ligament of the leg, contraction of which naturally follows. Corns are mainly produced by improper shoeing, which contracts the heel. Instead of bevelling

from without inward, making the foot to rest in a concavity, which resists the natural expansion of the hoof and forces the heel inward, the shoe should be made level.

—A sycamore tree in Mississippi Co., Missouri, has a trunk forty-three feet in circumference; another in Howard county is thirty-eight and a half feet in circumference. A cypress in Cape Girardeau county is twenty-nine feet in circumference, and a black walnut in Benton county is nearly eight feet through.

—The process of butter making, says the *Scientific American*, depends mainly upon physical action. The butter is formed in the cream, and the effect of the churning is simply to bring the isolated particles into one mass. A high temperature favors the process of softening the globules of butter and rendering them more adhesive.

—The editor of the Woodstock, Can., *Patriot* makes merry over the mistake of an old Shanghae hen of his that has been sitting for five weeks upon two round stones and a piece of brick. "Her anxiety," he says, "is no greater than ours to know what she will hatch. If it proves a brick yard, that hen is not for sale."

—In describing the farm of W. H. Mann & Bro., in McLean County, Ill., of a little over one thousand acres, the *Prairie Farmer* mentions a "patch" of Osage Orange plants for hedges of 250 acres in one body, in rows two feet apart; one hundred acres in corn and two hundred and fifty in wheat and oats. Only two years ago the whole was a wild prairie!

—While a Mr. Rice was eating cherries on his farm, near Fredericksburg, Ind., and viewing the working of his bees, one of the bees stung him on the upper lip, when he immediately started for the house, calling to his mother for some remedy, laughingly remarking that a bee had stung him. The remedy was applied, but in half an hour the man was speechless, and soon after was a corpse.

—The Sacramento *Bee* asserts that in the Alameda and Santa Clara valleys the farmers have actually been driven by ground squirrels from some of their best lands; that their settlements, like those of the prairie-dog extend for miles, each burrow sheltering from one to six inmates; and that it would hardly be an exaggeration to say that they eat one-fourth of the annual wheat crop.

—A few weeks since we copied a statement made by a correspondent of the *Prairie Farmer* that walking cultivators were taking the place of the wheeled or riding ones, in the corn growing regions of Illinois. This we see is very positively denied by other correspondents, who say the wheeled cultivators are becoming more and more popular with farmers generally.

—A correspondent of the *Mirror and Farmer*, who has been down South, says, that during the war large quantities of cotton were hauled by ox teams from Texas to Mexico. Both Texan and Spanish teamsters were employed. The Spanish oxen were yoked by the head; the Texan by the neck, or in our usual style. Working thus together the superiority of the head gear was so manifest, that it was generally adopted by the American teamsters. He wishes that a few yoke of steers might be trained to "walk Spanish," and be exhibited at our Fairs.

—A correspondent of the *Western Rural* in Franklin County, Mo., mentions some fields of corn, in which the stalks were prostrated to the ground as if a storm had levelled them. On examination, there was found at the root of the stalk a little white worm, half an inch long, with a whitish brown head—not the cut worm—but such as harbor in logs cut in summer time. Quite an amount of damage seems to have been done by them.

—The Boston *Journal of Chemistry*, edited by Dr. J. R. Nichols, and published monthly at fifty cents a year, says that when a person is mortally bitten by the *cobra*, molecules of living germinal matter are thrown into the blood, and so rapidly multiply that in a few hours millions upon millions are produced. Chemical action is interfered with, combustion is extinguished; coldness, sleepiness, insensibility, slow breathing, and death follow. How mysterious is the influence of *poison!*

—The editor of the Ohio *Farmer*, having visited Mr. W. A. Flander's Apiarian Institute on Kelley's Island, in Lake Erie, writes as follows: Talk of big prices for merino rams! Flanders can get more money for an Italian queen bee, with three rings around her tail, than any ram peddler can get for the best Vermont Merino in his flock. Bugs is ris! A little insect not so big as a tooth-pick, worth more money than a Shorthorn bull! The idea would be ridiculous if it was not true.

—The Columbus, Miss., *Sentinel* details a visit of the editor to a cotton plantation, the work on which was entirely performed by white laborers. The number of acres cleared was about 900, of which 600 were planted with cotton. There were twenty-one men and seven or eight youngsters who worked on an average about twenty acres each. It was one of the best arranged and managed plantations in the cotton region. The crop promise was excellent, and estimated at 1,200 pounds to the acre.

—Our readers will remember a statement that we published some time since, of Capt. Geo. Pierce's orchard of six acres on a naturally poor soil, formerly known as Poverty Point, which produced, last year, apples enough, with some vegetables grown on the same land, to amount to about $1800. A correspondent of the Boston *Cultivator* says there is another abundant crop now on the same trees, while nearly all the trees in other parts of the town are destitute of fruit. The only secret, Mr. P. says, is in the fact that he takes care of his orchard.

INDIAN SUMMER.

There is a time, just when the frost
Begins to pave old Winter's way,
When Autumn in a reverie lost,
The mellow daytime dreams away.

When Summer comes, in musing mind,
To gaze once more on hill and dell,
To mark how many sheaves they bind,
And see if all are ripened well.

With balmy breath she whispers low;
The dying flowers look up and give
Their sweetest incense ere they go,
For her who made their beauties live.

She enters 'neath the woodland shade,
Her Zephyrs lift the lingering leaf,
And bear it gently where are laid
The loved and lost ones of its grief.

At last, old Autumn, rising, takes
Again his sceptre and his throne
With boisterous hand the tree he shakes,
Intent on gathering all his own.

Sweet Summer sighing, flies the plain,
And waiting Winter, gaunt and grim,
Sees miser Autumn hoard his grain,
And smiles to think it's all for him.

PRESERVATION OF DAHLIA ROOTS.

Being fond of good dahlias, and grieved at the frequent losses that come under our notice, we beg to commend to the attention of those who too often have to lament the loss of their favorites, the following effective method of preserving their roots; and we mention the subject thus early, so that all our subscribers may get our hints in time. The tops being killed by the autumn frosts, and thus become unsightly, must be cut away, leaving the roots undisturbed for several weeks in order to feed the nascent buds destined to break the following spring. For, if at the time of removing the plants from the ground these buds are immature, there is great probability that the tubers will perish before the spring; or should their vitality remain, there will be found a difficulty, if not an impossibility, of getting them to "break." The next business is to lift the plants from the ground; and in doing this the greatest care should be taken to preserve their fibrous roots, for the plants require constant nourishment. A number of these rootlets will, however, under the most careful handling, be broken off, and the supply of sap interrupted until new roots are made; but with those plants that have well-swollen buds their reproduction is soon effected. When the tubers are raised from the ground, they should immediately be transferred to their winter quarters, where their fibrous roots must be carefully spread upon a thin layer of sand or earth, and at once covered with about an inch of the same, leaving the greater portion of the tuber bare. During winter they should be kept slightly moistened. For wintering these tubers, there is, perhaps, (unless a special place is provided for them,) no better place than under the stage of a cool green-house; but, whatever place may be assigned them, it is indispensable that it admits a moderate amount of light; is kept cool, but above the freezing point, and that the atmosphere is such as suits growing plants generally; alike free from both saturation and dryness, which will with equal certainty engender putrefaction.

American Durhams Sent to England.—A two-year-old bull, three two-year-old heifers, and four yearling heifers were shipped at New York for England. In noticing this shipment, the *Country Gentleman* says: "The Third Duke of Geneva, who heads the list, we presume to be as good a bull as ever crossed the Atlantic *in either direction*. The heifers are really a fine lot, and will be heard from in their new home with as great credit to themselves and to the country, as any thing that has preceded them." They were bred by James O. Sheldon, Geneva County, N. Y.

Feed Racks.—Never feed your cattle in the yard without a "rack." Economy rightly enough shrugs her shoulders at so slovenly a practice. The actual loss to the farmer from this waste is equal to the cost of half a dozen racks and the expense of keeping them in complete repair for years. Any farmer who has an ax, saw and auger, can make one.